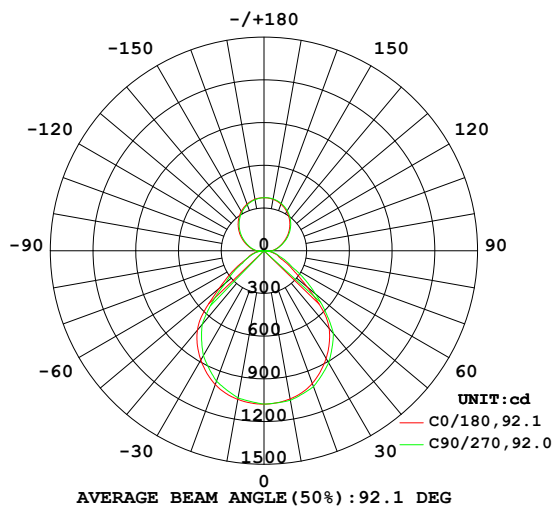


LUMINAIRE PHOTOMETRIC TEST REPORT

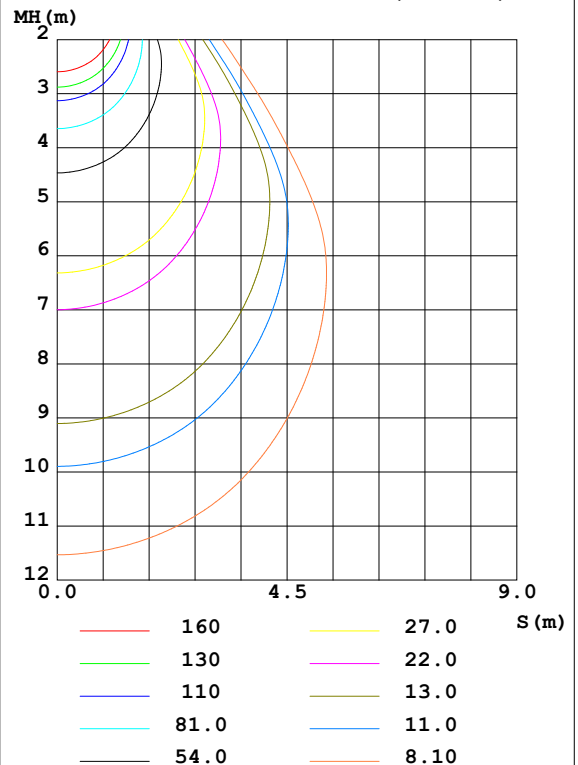
Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm		
NAME: GAME 450-U-29W-840	TYPE:Ceiling light	WEIGHT:
SPEC.:4000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 112.07 lm/W			
MODEL	OSRAM-4000K	I _{max} (cd)	1077	S/MH (C0/180)	1.23
NOMINAL POWER (W)	31	LOR (%)	100.0	S/MH (C90/270)	1.18
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	3472.8	η UP, DN (C0-180)	17.8, 34.0
NOMINAL FLUX (lm)	3472.77	CIE CLASS	SEMI-D.	η UP, DN (C180-360)	17.0, 31.2
LAMPS INSIDE	1	η up (%)	34.8	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	220.0	η down (%)	65.2	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: Jason
Test Date: 2019-11-15

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 5.650m [K=1.7699]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

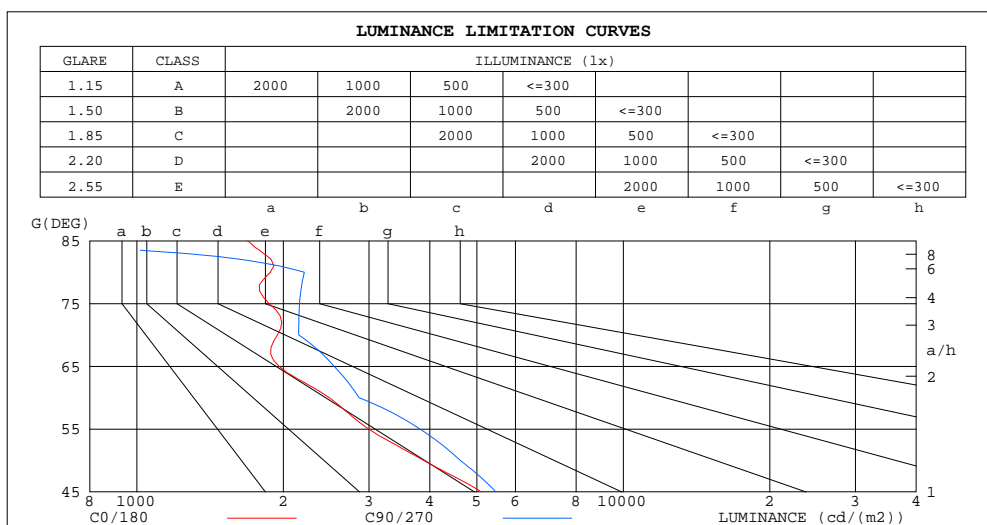
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	$\%lum, lamp$
10	1056	1060	1067	1061	1060	1047	1050	1049	0- 10	101.6	101.6	2.93,2.93
20	991.6	1007	1016	1001	1000	972.7	975.2	978.5	10- 20	290.4	392.0	11.3,11.3
30	872.8	897.4	909.0	898.2	887.3	856.2	851.0	857.0	20- 30	432.6	824.6	23.7,23.7
40	711.8	742.5	758.9	740.6	728.5	689.7	675.8	671.1	30- 40	500.1	1325	38.1,38.1
50	397.2	482.8	471.9	382.7	411.1	389.7	354.2	303.3	40- 50	430.6	1755	50.5,50.5
60	197.5	193.8	227.5	222.5	205.6	172.4	173.7	186.8	50- 60	254.8	2010	57.9,57.9
70	105.7	126.5	116.9	124.3	109.0	101.2	96.98	108.0	60- 70	145.9	2156	62.1,62.1
80	51.92	59.30	60.97	61.68	56.62	45.82	42.68	48.09	70- 80	85.85	2242	64.6,64.6
90	53.11	56.92	57.04	52.92	50.86	48.22	48.57	47.83	80- 90	23.31	2265	65.2,65.2
100	89.11	93.86	93.49	91.31	88.16	84.46	82.07	83.03	90-100	75.78	2341	67.4,67.4
110	131.2	136.8	137.9	134.2	131.2	126.3	122.0	124.4	100-110	114.9	2456	70.7,70.7
120	181.4	187.8	189.9	185.9	181.5	175.2	170.9	174.5	110-120	153.7	2609	75.1,75.1
130	233.0	239.4	241.6	237.9	232.9	226.5	222.7	226.1	120-130	185.2	2795	80.5,80.5
140	280.1	286.0	288.2	285.0	280.2	274.3	270.8	273.9	130-140	198.3	2993	86.2,86.2
150	319.6	324.6	326.5	323.9	319.9	314.9	312.2	314.7	140-150	188.2	3181	91.6,91.6
160	349.2	352.9	354.2	352.6	349.5	345.8	344.0	345.8	150-160	154.8	3336	96.1,96.1
170	367.3	369.1	370.1	369.1	367.8	365.7	364.8	365.8	160-170	101.6	3437	99,99
180	373.0	373.0	373.0	373.0	373.0	373.0	373.0	373.0	170-180	35.35	3473	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm		
NAME: GAME 450-U-29W-840	TYPE:Ceiling light	WEIGHT:
SPEC.:4000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1690	0
80	1882	2210
75	1869	2159
70	1944	2152
65	1959	2543
60	2486	2863
55	2995	3821
50	3889	4620
45	5110	5473

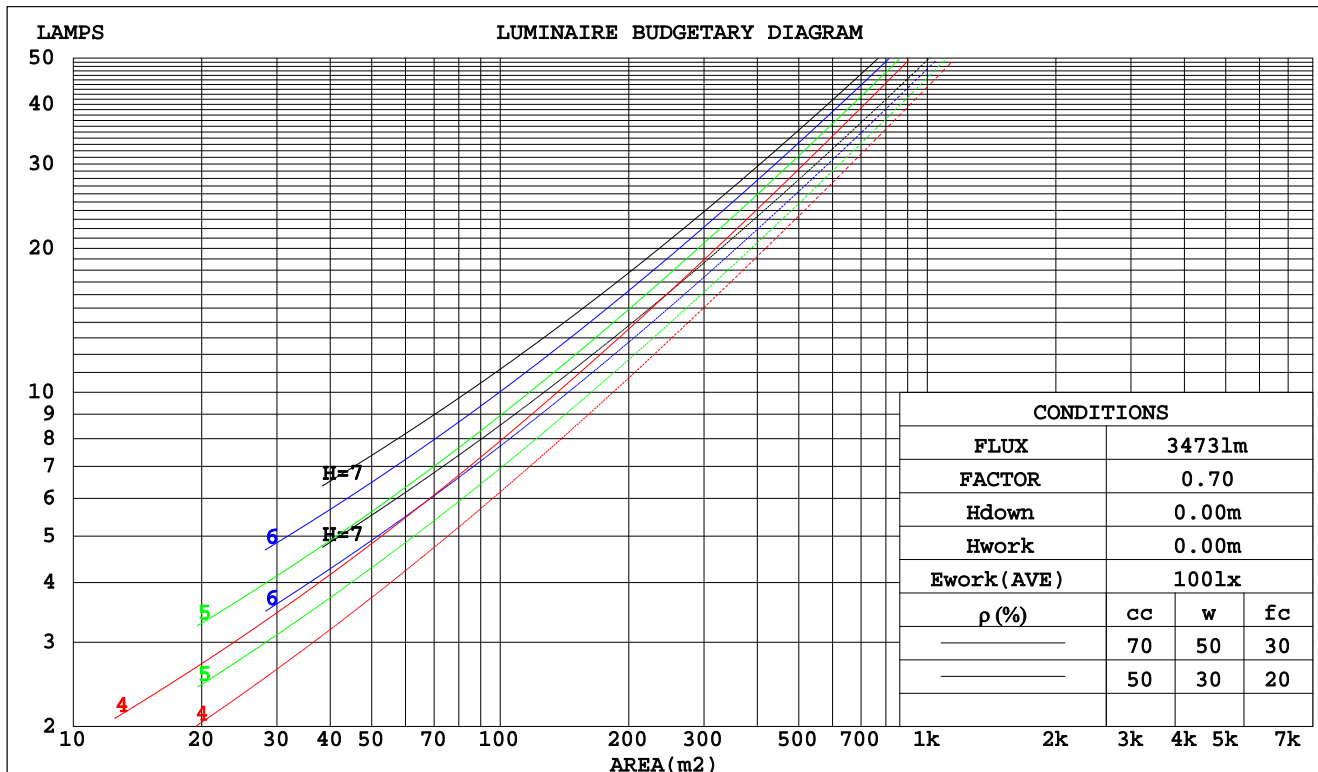
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm		
NAME: GAME 450-U-29W-840	TYPE:Ceiling light	WEIGHT:
SPEC.:4000K	DIM.: φ450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.:φ450mm	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.11	1.11	1.11	1.04	1.04	1.04	.92	.92	.92	.80	.80	.80	.70	.70	.70	.65
1.0	.98	.95	.91	.93	.89	.87	.82	.80	.78	.72	.71	.69	.64	.62	.61	.57
2.0	.87	.81	.76	.82	.77	.73	.73	.69	.66	.65	.62	.59	.57	.55	.53	.49
3.0	.77	.70	.65	.73	.67	.62	.65	.61	.57	.58	.55	.51	.52	.49	.46	.43
4.0	.69	.62	.56	.66	.59	.54	.59	.54	.49	.53	.48	.45	.47	.44	.41	.38
5.0	.62	.54	.49	.59	.52	.47	.53	.48	.43	.48	.43	.40	.43	.39	.36	.33
6.0	.56	.48	.43	.54	.46	.41	.48	.43	.38	.44	.39	.35	.39	.35	.32	.30
7.0	.51	.43	.38	.49	.42	.37	.44	.38	.34	.40	.35	.32	.36	.32	.29	.27
8.0	.47	.39	.34	.45	.38	.33	.41	.35	.31	.37	.32	.29	.33	.29	.26	.24
9.0	.43	.36	.31	.41	.34	.30	.37	.32	.28	.34	.29	.26	.31	.27	.24	.22
10.0	.40	.32	.28	.38	.31	.27	.35	.29	.25	.32	.27	.24	.29	.25	.22	.20



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

WEC AND CCEC

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm		
NAME: GAME 450-U-29W-840	TYPE:Ceiling light	WEIGHT:
SPEC.:4000K	DIM.: φ450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.:φ450mm	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.260	.148	.047	.242	.138	.044	.209	.120	.038	.179	.103	.033	.152	.088	.028		
2.0	.245	.134	.041	.229	.126	.039	.199	.111	.034	.172	.097	.030	.147	.083	.026		
3.0	.229	.122	.036	.214	.115	.035	.187	.102	.031	.163	.089	.027	.139	.077	.024		
4.0	.213	.111	.033	.200	.105	.031	.176	.093	.028	.153	.082	.025	.132	.072	.022		
5.0	.199	.102	.029	.187	.096	.028	.165	.086	.025	.144	.076	.023	.124	.066	.020		
6.0	.187	.094	.027	.176	.089	.026	.155	.079	.023	.135	.070	.021	.117	.062	.018		
7.0	.175	.087	.025	.165	.082	.023	.146	.074	.021	.128	.066	.019	.111	.058	.017		
8.0	.165	.080	.023	.155	.076	.022	.138	.069	.020	.121	.061	.018	.105	.054	.016		
9.0	.155	.075	.021	.147	.071	.020	.130	.064	.018	.115	.057	.016	.100	.051	.015		
10.0	.147	.070	.020	.139	.067	.019	.123	.060	.017	.109	.054	.015	.095	.048	.014		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.455	.455	.455	.389	.389	.389	.266	.266	.266	.153	.153	.153	.049	.049	.049	
1.0	.444	.424	.406	.380	.364	.349	.260	.250	.241	.150	.145	.140	.048	.047	.045	
2.0	.435	.401	.373	.372	.345	.322	.255	.239	.225	.147	.139	.132	.047	.045	.043	
3.0	.427	.384	.351	.366	.332	.304	.251	.230	.213	.145	.135	.126	.047	.044	.041	
4.0	.420	.372	.335	.360	.321	.291	.248	.224	.205	.143	.131	.121	.046	.043	.040	
5.0	.413	.362	.324	.355	.313	.282	.244	.219	.199	.141	.128	.118	.046	.042	.039	
6.0	.406	.354	.316	.349	.307	.276	.241	.215	.195	.140	.126	.116	.045	.041	.038	
7.0	.400	.348	.310	.344	.301	.271	.238	.211	.192	.138	.124	.114	.045	.041	.038	
8.0	.395	.342	.306	.340	.297	.267	.235	.208	.189	.137	.123	.113	.044	.040	.037	
9.0	.390	.338	.302	.336	.293	.264	.233	.206	.187	.135	.122	.112	.044	.040	.037	
10.0	.385	.334	.300	.332	.290	.262	.230	.204	.186	.134	.121	.111	.044	.040	.037	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm										
NAME: GAME 450-U-29W-840					TYPE:Ceiling light			WEIGHT:		
SPEC.:4000K					DIM.: ϕ 450mm*H78mm			SERIAL No.:		
MFR.: NEKO LIGHTING AG					SUR.: ϕ 450mm			Shielding Angle:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	10.3	11.3	11.0	12.0	12.8	10.8	11.8	11.5	12.5	13.3
3H	10.8	11.7	11.5	12.4	13.3	11.4	12.3	12.2	13.1	13.9
4H	11.1	11.9	11.8	12.7	13.6	11.7	12.5	12.4	13.3	14.2
6H	11.3	12.1	12.1	12.9	13.8	11.9	12.7	12.7	13.5	14.4
8H	11.4	12.2	12.2	12.9	13.9	12.0	12.7	12.8	13.5	14.4
12H	11.5	12.2	12.2	12.9	13.9	11.9	12.6	12.7	13.4	14.3
4H 2H	10.4	11.2	11.1	12.0	12.9	10.9	11.7	11.6	12.4	13.3
3H	11.1	11.8	11.9	12.6	13.5	11.7	12.4	12.5	13.2	14.1
4H	11.6	12.2	12.4	13.0	14.0	12.1	12.7	12.9	13.5	14.5
6H	11.9	12.5	12.8	13.3	14.3	12.5	13.1	13.4	13.9	14.9
8H	12.1	12.6	13.0	13.5	14.5	12.6	13.1	13.5	14.0	15.0
12H	12.2	12.7	13.1	13.5	14.6	12.6	13.0	13.4	13.9	14.9
8H 4H	11.6	12.2	12.5	13.0	14.0	12.1	12.6	13.0	13.5	14.5
6H	12.2	12.6	13.1	13.5	14.5	12.7	13.2	13.6	14.0	15.1
8H	12.5	12.9	13.4	13.7	14.8	12.9	13.3	13.8	14.1	15.2
12H	12.7	13.0	13.6	13.9	15.0	12.8	13.2	13.8	14.1	15.2
12H 4H	11.6	12.1	12.5	12.9	14.0	12.1	12.6	13.0	13.4	14.5
6H	12.2	12.6	13.1	13.5	14.6	12.7	13.1	13.6	14.0	15.1
8H	12.6	12.9	13.5	13.8	14.9	12.9	13.2	13.8	14.1	15.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.7					+ 0.4 / - 0.4				
1.5H	+ 0.3 / - 0.5					+ 0.3 / - 0.4				
2.0H	+ 1.0 / - 1.0					+ 0.9 / - 0.9				

CIE Pub.117, 3473 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 4.3$)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm		
NAME: GAME 450-U-29W-840	TYPE:Ceiling light	WEIGHT:
SPEC.:4000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:

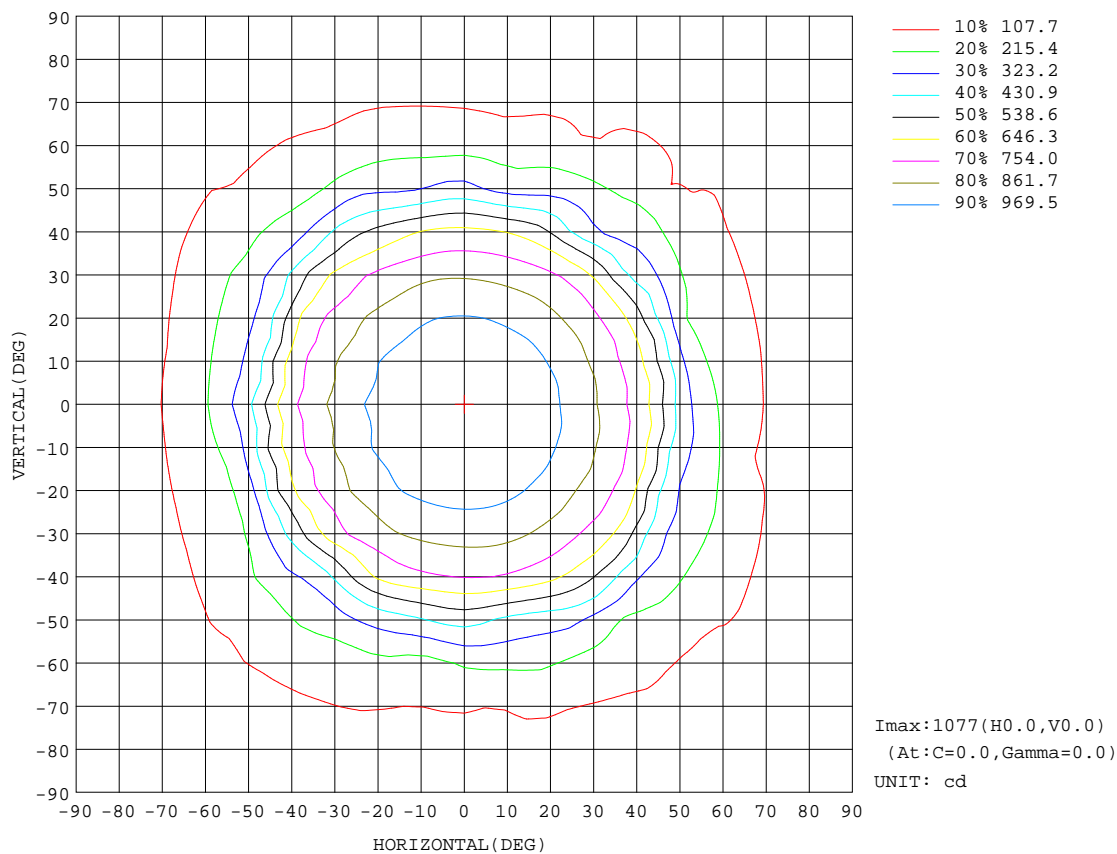
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	53	43	37	51	42	36	48	40	35	28
0.80	63	52	45	60	51	45	56	48	43	34
1.00	70	60	53	67	58	52	62	56	49	40
1.25	77	67	60	73	65	59	67	60	55	44
1.50	81	72	66	78	69	63	71	64	59	47
2.00	88	79	73	83	76	71	75	70	65	51
2.50	91	84	78	87	80	75	78	73	69	53
3.00	95	88	82	89	84	79	80	76	72	55
4.00	98	93	88	93	88	84	83	79	76	57
5.00	101	96	92	95	91	87	84	82	79	59
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm		
NAME: GAME 450-U-29W-840	TYPE:Ceiling light	WEIGHT:
SPEC.:4000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:

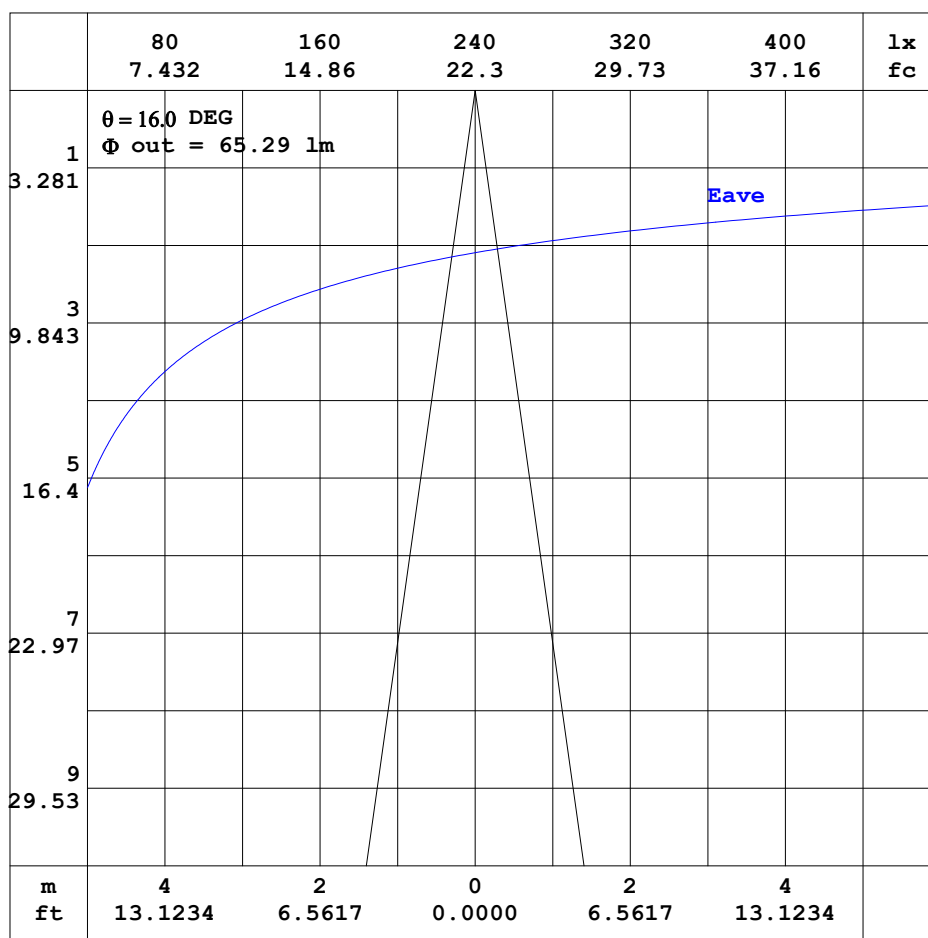


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

AAI CURVES

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm		
NAME: GAME 450-U-29W-840	TYPE:Ceiling light	WEIGHT:
SPEC.:4000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:



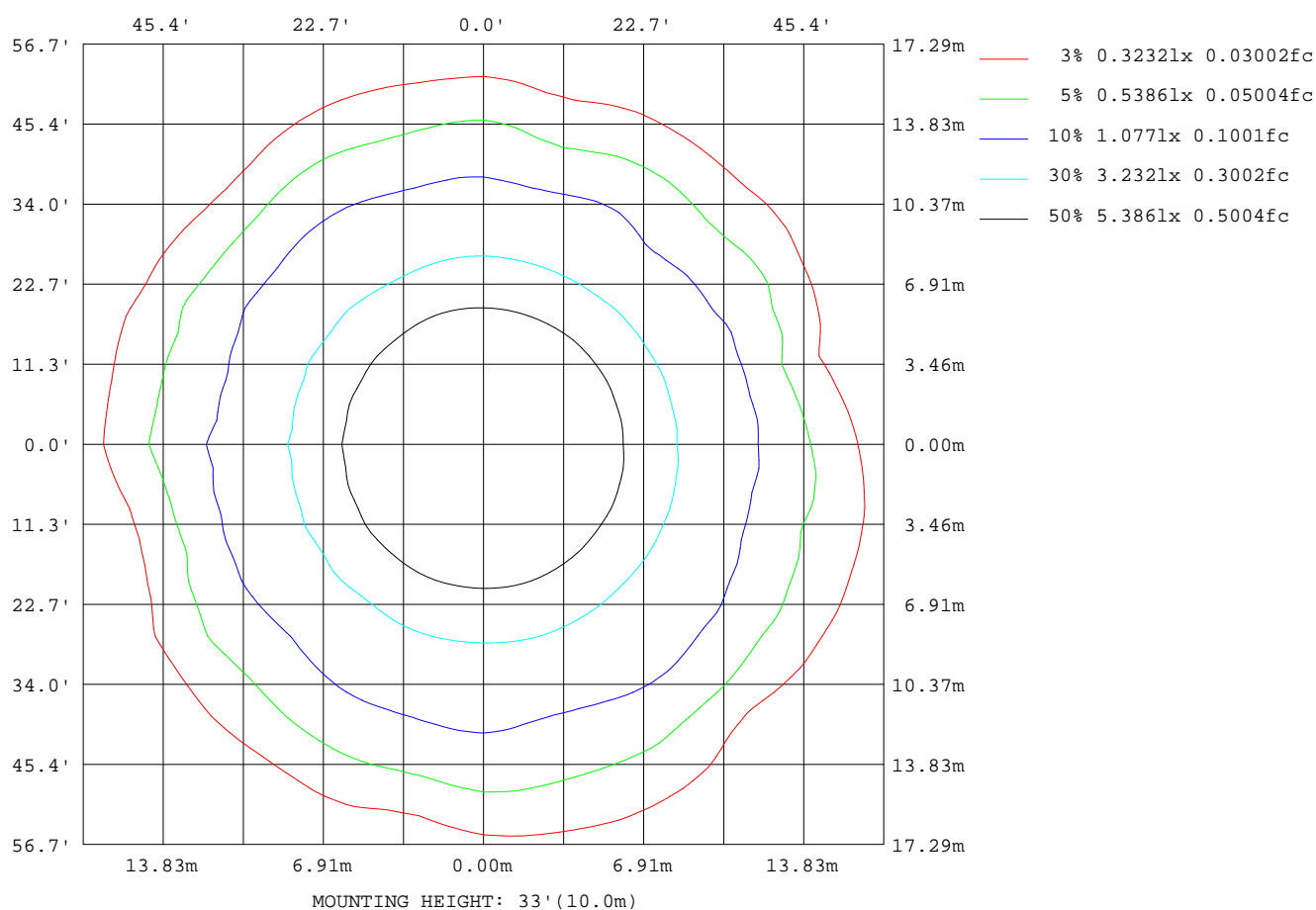
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

ISOLUX DIAGRAM

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm		
NAME: GAME 450-U-29W-840	TYPE:Ceiling light	WEIGHT:
SPEC.:4000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

LED Avg.L Report

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm		
NAME: GAME 450-U-29W-840	TYPE:Ceiling light	WEIGHT:
SPEC.:4000K	DIM.: ϕ 450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.: ϕ 450mm	Shielding Angle:

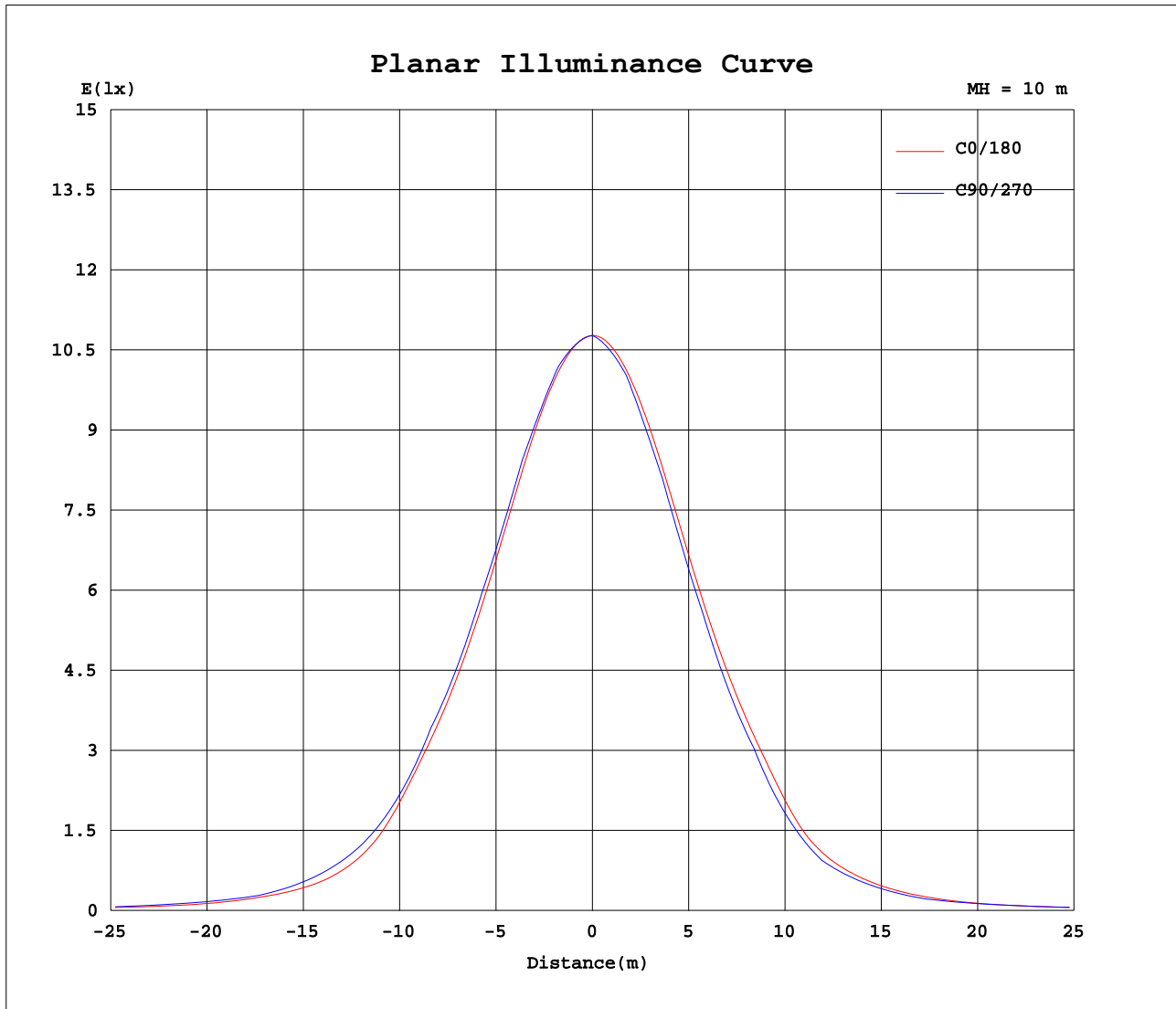
AvgL	cd/m2
L_0~180 (65) av	1997
L_0~180 (75) av	1929
L_0~180 (85) av	1828
L_90~270 (65) av	2280
L_90~270 (75) av	1936
L_90~270 (85) av	0
L_45 (65) av	2270
L_45 (75) av	1965
L_45 (85) av	1130

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: Jason
Test Date: 2019-11-15

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 5.650m [K=1.7699]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm		
NAME: GAME 450-U-29W-840	TYPE:Ceiling light	WEIGHT:
SPEC.:4000K	DIM.: φ450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.:φ450mm	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077
5	1071	1071	1071	1071	1071	1071	1071	1071	1071	1071	1071	1072	1072	1072	1072	1072	1072	1072	1072
10	1056	1056	1056	1057	1057	1058	1059	1059	1060	1060	1061	1062	1063	1063	1064	1065	1066	1066	1067
15	1031	1032	1033	1035	1036	1036	1037	1038	1040	1040	1040	1040	1040	1041	1041	1041	1042	1042	1042
20	992	994	997	1000	1000	1001	1003	1004	1005	1007	1007	1007	1008	1010	1011	1013	1014	1016	1016
25	937	942	949	949	950	952	954	958	957	957	960	961	963	964	965	965	964	963	962
30	873	881	888	888	890	894	895	893	894	897	901	905	905	907	908	910	910	910	909
35	798	811	816	817	824	825	822	823	828	829	830	833	835	837	839	839	838	836	833
40	712	730	729	734	742	738	743	746	743	742	745	751	754	755	758	760	762	762	759
45	574	602	575	602	587	614	629	634	635	639	638	644	643	630	616	608	609	614	615
50	397	408	387	392	396	432	440	477	476	483	498	499	483	458	438	429	435	456	472
55	273	295	296	279	299	302	320	311	315	331	332	332	336	331	328	329	337	348	348
60	197	208	223	234	233	234	231	229	210	194	215	240	250	254	255	248	242	237	227
65	132	129	137	158	164	155	157	154	162	162	161	158	169	186	194	187	176	174	171
70	106	106	111	122	121	111	109	112	115	126	124	123	127	131	136	132	116	110	117
75	76.9	86.2	90.1	90.4	90.4	92.5	92.0	86.0	88.3	87.8	86.1	89.4	91.5	94.6	101	99.1	87.9	86.5	88.8
80	51.9	55.5	61.2	63.8	61.3	60.0	56.5	58.8	60.4	59.3	60.0	61.5	62.7	65.6	70.5	70.6	65.1	61.5	61.0
85	23.4	24.5	28.2	29.0	34.4	33.1	32.4	26.9	21.1	17.2	14.2	11.2	8.41	6.14	4.26	2.41	0.99	0.23	0.00
90	53.1	53.9	54.6	55.2	55.7	56.0	56.2	56.5	56.7	56.9	57.0	57.0	57.0	57.0	0.00	0.00	57.0	57.0	57.0
95	70.2	71.2	72.0	72.8	73.3	73.7	74.0	74.3	74.5	74.7	74.8	74.8	74.9	74.8	74.8	74.8	74.9	74.9	74.9
100	89.1	90.1	91.0	91.7	92.3	92.7	93.0	93.3	93.6	93.9	94.0	94.1	94.2	94.3	94.3	94.3	94.0	93.8	93.5
105	109	110	111	112	112	113	113	114	114	115	115	115	115	115	115	115	115	115	114
110	131	132	133	134	135	135	136	136	137	137	137	138	138	138	138	138	138	138	138
115	155	156	157	158	159	160	161	161	161	162	162	163	163	163	163	163	163	163	163
120	181	182	183	184	185	186	187	187	188	188	188	189	190	190	189	189	189	190	190
125	207	208	210	210	212	212	213	214	214	214	215	215	216	216	216	215	216	216	216
130	233	234	235	236	237	238	239	239	239	239	240	241	241	241	241	241	241	241	242
135	257	258	259	260	261	262	263	263	263	264	264	265	265	265	265	265	265	266	266
140	280	281	282	283	284	285	285	286	286	286	287	287	288	288	288	288	288	288	288
145	301	302	303	304	304	305	306	306	306	306	307	308	308	308	308	308	308	308	309
150	320	320	321	322	323	323	324	324	324	325	325	326	326	326	326	326	326	326	326
155	336	336	337	338	338	339	339	340	340	340	340	341	341	341	341	341	341	342	342
160	349	350	350	351	351	352	352	352	353	353	353	354	354	354	354	354	354	354	354
165	360	360	361	361	361	362	362	362	362	363	363	363	363	364	364	364	364	364	364
170	367	368	368	368	368	369	369	369	369	369	369	370	370	370	370	370	370	370	370
175	372	372	372	372	372	372	372	372	372	373	373	373	373	373	373	373	373	373	373
180	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm																		
NAME: GAME 450-U-29W-840									TYPE:Ceiling light					WEIGHT:				
SPEC.:4000K									DIM.: φ450mm*H78mm					SERIAL No.:				
MFR.: NEKO LIGHTING AG									SUR.:φ450mm					Shielding Angle:				

Table--2

UNIT: cd

C (DEG) γ (DEG)	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185
0	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077
5	1072	1072	1072	1072	1072	1071	1071	1071	1071	1071	1071	1071	1071	1072	1072	1072	1073	1073	1072
10	1067	1067	1067	1066	1066	1065	1064	1062	1061	1060	1058	1057	1057	1057	1057	1058	1059	1060	1057
15	1042	1041	1041	1041	1041	1041	1041	1043	1044	1045	1041	1038	1034	1031	1031	1032	1034	1037	1031
20	1016	1016	1015	1013	1011	1008	1006	1003	1001	1002	1004	1008	1003	996	990	991	995	1000	992
25	962	961	960	960	961	962	964	965	959	953	946	948	952	950	941	936	941	949	938
30	908	907	905	903	901	898	895	896	898	902	894	884	881	887	884	872	876	887	873
35	831	829	828	828	830	832	837	831	823	817	821	823	808	804	814	801	799	815	797
40	755	753	751	749	745	736	724	724	741	737	718	719	736	713	715	717	705	729	697
45	608	602	602	610	621	625	605	569	554	577	601	571	580	595	560	592	544	585	517
50	466	451	441	442	449	446	429	406	383	393	407	417	398	398	377	391	379	411	365
55	330	312	309	316	317	312	305	293	285	291	303	280	265	234	235	241	264	298	282
60	208	186	193	217	221	214	211	219	222	215	202	208	186	178	169	178	193	206	204
65	156	142	149	162	158	147	142	159	167	149	132	135	147	139	140	144	143	137	132
70	116	111	112	121	124	120	119	123	124	117	111	108	112	106	99.4	99.1	104	109	106
75	86.9	84.2	85.0	89.3	94.7	95.2	94.5	87.3	84.4	88.2	88.2	88.8	81.5	82.0	76.9	73.8	75.6	81.8	80.7
80	59.4	59.6	58.2	58.5	65.9	69.4	71.4	63.9	61.7	64.7	62.5	61.9	54.8	52.8	51.8	46.9	49.1	56.6	53.8
85	0.23	0.90	1.98	3.50	6.26	9.68	14.1	16.5	20.2	27.0	29.9	33.8	31.6	27.5	25.8	21.3	17.0	27.2	22.4
90	57.0	56.7	0.00	0.00	54.9	54.1	53.7	53.3	52.9	52.4	51.9	51.4	51.1	50.8	50.6	50.7	50.8	50.9	50.4
95	74.6	74.2	73.8	73.5	73.3	73.0	72.7	72.3	71.9	71.5	71.1	70.7	70.3	70.0	69.7	69.5	69.3	69.0	68.5
100	93.4	93.3	93.2	93.0	92.7	92.4	92.0	91.7	91.3	90.9	90.5	90.1	89.8	89.4	89.1	88.8	88.5	88.2	87.7
105	114	114	114	114	113	113	113	112	112	111	111	111	110	110	110	109	109	109	108
110	137	137	136	136	136	136	136	135	134	134	134	134	133	133	132	132	132	131	130
115	163	163	162	162	162	162	161	160	159	159	159	159	158	157	156	156	156	156	155
120	189	189	188	188	188	188	187	187	186	186	185	185	184	183	183	182	182	181	181
125	216	215	215	215	215	214	214	213	212	212	212	211	211	210	209	208	208	207	207
130	241	241	240	240	240	240	239	239	238	238	237	237	236	235	234	234	233	233	232
135	265	265	265	265	264	264	264	263	262	262	262	261	261	260	259	258	258	257	257
140	288	288	287	287	287	287	286	286	285	285	284	284	283	282	282	281	281	280	279
145	308	308	308	308	307	307	307	306	306	305	305	305	304	303	302	302	302	301	300
150	326	326	326	326	326	325	325	324	324	324	323	323	322	322	321	321	320	320	319
155	342	341	341	341	341	341	341	340	340	339	339	339	338	338	337	337	336	336	335
160	354	354	354	354	354	354	353	353	353	352	352	352	351	351	350	350	350	350	349
165	364	364	363	363	363	363	363	363	362	362	362	362	361	361	361	361	360	360	360
170	370	370	370	370	370	370	370	369	369	369	369	369	369	368	368	368	368	368	368
175	373	373	373	373	373	373	373	373	373	373	373	373	372	372	372	372	372	372	372
180	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm		
NAME: GAME 450-U-29W-840	TYPE:Ceiling light	WEIGHT:
SPEC.:4000K	DIM.: φ450mm*H78mm	SERIAL No.:
MFR.: NEKO LIGHTING AG	SUR.:φ450mm	Shielding Angle:

Table--3

UNIT: cd

C (DEG) γ (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077
5	1071	1069	1068	1067	1066	1066	1065	1064	1064	1064	1063	1063	1063	1063	1063	1063	1063	1063	1064
10	1054	1052	1050	1048	1047	1047	1047	1047	1047	1048	1048	1049	1049	1049	1049	1050	1050	1050	1050
15	1027	1023	1020	1021	1022	1024	1026	1023	1020	1017	1015	1014	1013	1012	1012	1012	1012	1013	1013
20	985	981	983	986	987	981	976	973	972	973	974	975	975	976	976	976	975	974	974
25	929	931	936	933	924	918	920	923	926	924	921	919	917	916	915	914	913	913	913
30	867	874	873	861	857	861	864	856	851	850	853	855	856	856	855	853	851	849	848
35	797	807	791	788	795	785	774	775	780	785	776	769	766	765	765	765	764	763	762
40	708	700	692	713	693	682	690	690	672	659	656	658	663	670	676	678	676	672	667
45	548	508	542	544	547	573	549	536	542	543	537	526	515	509	511	516	517	508	498
50	360	352	365	375	399	380	377	390	400	398	393	375	353	342	347	358	354	330	307
55	277	276	270	286	268	259	253	249	261	269	274	268	258	254	256	262	265	253	230
60	204	204	209	193	194	186	180	172	176	182	188	194	195	190	179	173	174	167	157
65	148	153	141	134	130	133	133	133	130	126	129	139	146	146	141	137	135	131	121
70	107	110	111	108	99.3	98.7	99.2	101	99.9	98.6	103	107	108	106	103	101	97.0	90.7	86.5
75	81.1	81.5	81.3	76.8	77.0	72.8	73.6	76.9	73.9	72.5	76.6	78.7	77.6	76.6	76.3	73.4	70.4	66.6	63.5
80	57.3	55.5	55.9	52.6	49.6	46.6	45.8	45.8	45.7	45.9	48.9	50.6	49.1	50.2	49.6	45.2	42.7	40.5	40.9
85	26.3	26.1	23.5	23.0	21.5	18.5	14.8	11.8	9.85	8.08	6.44	4.67	2.92	1.69	0.75	0.17	0.00	0.15	0.62
90	49.9	49.4	49.0	48.8	48.6	48.4	48.3	48.2	48.1	48.0	48.0	48.0	48.0	48.2	48.4	48.6	48.4	48.1	
95	68.0	67.4	67.0	66.5	66.2	66.0	65.8	65.7	65.4	65.1	64.9	64.8	64.8	64.8	64.7	64.5	64.4	64.4	64.3
100	87.1	86.6	86.2	85.8	85.5	85.1	84.8	84.5	84.2	83.9	83.6	83.4	83.2	83.0	82.6	82.3	82.1	82.0	81.9
105	108	107	107	106	106	106	105	105	104	104	104	103	103	102	102	102	101	101	101
110	130	129	129	128	128	127	127	126	126	125	125	124	123	123	122	122	122	122	122
115	154	153	153	152	151	151	150	150	149	148	147	147	147	147	146	145	145	145	145
120	180	179	178	177	176	176	176	175	174	174	173	173	172	172	172	171	171	171	171
125	206	205	204	203	202	202	201	201	200	199	199	199	198	198	198	197	197	197	197
130	231	230	229	228	228	227	227	227	226	225	224	224	224	224	223	223	223	223	223
135	256	255	254	253	252	252	252	251	250	250	249	249	249	249	248	248	247	248	248
140	279	278	277	276	275	275	275	274	274	273	272	272	272	272	271	271	271	271	271
145	300	299	298	297	297	296	296	296	295	294	294	294	294	294	293	293	292	293	293
150	319	318	317	316	316	316	315	315	314	314	313	313	313	313	313	312	312	312	312
155	335	334	334	333	333	332	332	332	331	331	330	330	330	330	330	330	329	329	330
160	349	348	348	347	347	346	346	346	345	345	345	345	345	345	344	344	344	344	344
165	359	359	359	358	358	358	357	357	357	357	356	356	356	356	356	356	356	356	356
170	367	367	367	366	366	366	366	366	365	365	365	365	365	365	365	365	365	365	365
175	372	372	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371	371
180	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.4V I:0.1406A P:30.99W PF:0 Freq:0Hz Lamp Flux:3472.77x1 lm																	
NAME: GAME 450-U-29W-840									TYPE:Ceiling light						WEIGHT:		
SPEC.:4000K									DIM.: φ450mm*H78mm						SERIAL No.:		
MFR.: NEKO LIGHTING AG									SUR.:φ450mm						Shielding Angle:		

Table--4

UNIT: cd

C (DEG) γ (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077	1077				
5	1064	1064	1064	1065	1065	1065	1065	1066	1066	1067	1067	1068	1069	1070	1070				
10	1050	1049	1049	1049	1049	1049	1049	1050	1050	1051	1052	1052	1053	1054	1055				
15	1014	1015	1016	1017	1018	1020	1022	1024	1024	1024	1025	1027	1028	1028	1029				
20	973	972	972	973	974	976	979	980	981	983	984	986	990	990	990				
25	914	914	915	917	919	921	922	925	929	928	928	930	934	938	937				
30	847	847	848	850	854	856	857	858	860	864	866	864	867	874	874				
35	761	762	764	769	778	779	782	783	781	784	790	792	788	797	801				
40	663	661	658	655	653	655	671	674	677	680	692	702	701	704	717				
45	497	507	515	498	465	468	494	503	488	515	541	547	572	560	593				
50	309	332	359	367	349	323	303	338	357	357	384	366	366	371	400				
55	222	234	249	254	256	251	247	254	268	274	248	240	202	229	252				
60	163	174	175	174	179	185	187	189	190	172	175	172	164	171	189				
65	124	131	123	110	111	136	148	136	108	118	129	136	134	137	140				
70	91.5	97.3	98.2	93.9	94.4	104	108	105	100	99.2	104	101	97.8	97.2	103				
75	65.8	68.6	72.0	72.8	73.1	69.4	74.1	79.4	81.6	73.3	71.8	73.8	75.9	75.2	75.7				
80	41.1	41.4	45.0	46.4	49.3	47.9	48.1	52.1	52.9	52.6	48.4	45.0	48.4	49.4	50.2				
85	1.38	2.44	4.11	6.06	8.95	11.1	13.4	17.0	19.2	21.5	22.2	22.0	21.8	23.3	26.7				
90	47.8	47.6	47.5	47.4	47.4	47.6	47.8	48.2	48.6	49.1	49.7	50.4	51.1	51.8	52.4				
95	64.2	64.0	63.8	63.7	63.9	64.2	64.6	64.9	65.3	65.8	66.5	67.3	68.2	68.9	69.6				
100	81.9	81.9	82.0	82.1	82.3	82.6	83.0	83.5	84.1	84.7	85.4	86.1	86.9	87.6	88.4				
105	101	101	101	102	102	103	103	104	104	105	106	106	107	108	109				
110	122	122	122	123	123	124	124	125	126	127	127	128	129	130	130				
115	146	146	146	146	147	148	149	149	150	150	151	153	154	154	155				
120	172	172	172	172	173	174	175	175	176	176	177	178	179	180	181				
125	198	198	198	198	199	200	200	201	202	202	203	204	205	206	207				
130	223	224	224	224	225	225	226	227	227	228	229	230	231	232	232				
135	248	248	248	249	249	250	251	251	252	252	253	254	255	256	257				
140	271	272	272	272	272	273	274	274	275	275	276	277	278	279	280				
145	293	293	293	293	294	295	295	296	296	297	298	298	299	300	301				
150	313	313	313	313	313	314	315	315	315	316	317	317	318	319	319				
155	330	330	330	330	330	331	331	332	332	333	333	334	334	335	335				
160	344	344	344	345	345	345	346	346	346	347	347	348	348	349	349				
165	356	356	356	356	357	357	357	357	358	358	358	359	359	359	360				
170	365	365	365	365	365	366	366	366	366	366	366	367	367	367	367				
175	371	371	371	371	371	371	371	371	371	371	371	371	371	372	372				
180	373	373	373	373	373	373	373	373	373	373	373	373	373	373	373				

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:Jason
Test Date:2019-11-15

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:5.650m [K=1.7699]
Remarks: