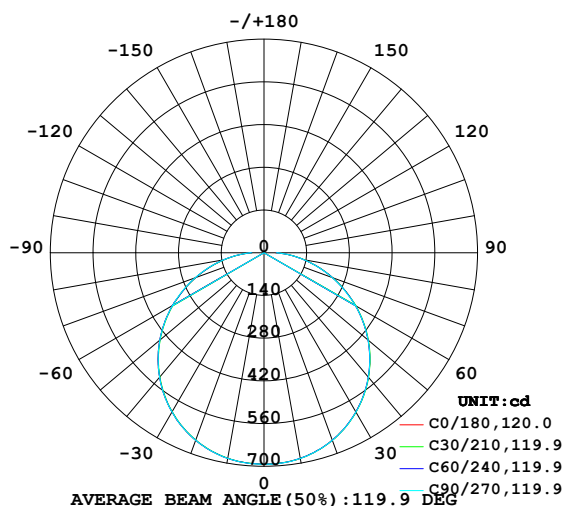


LUMINAIRE PHOTOMETRIC TEST REPORT

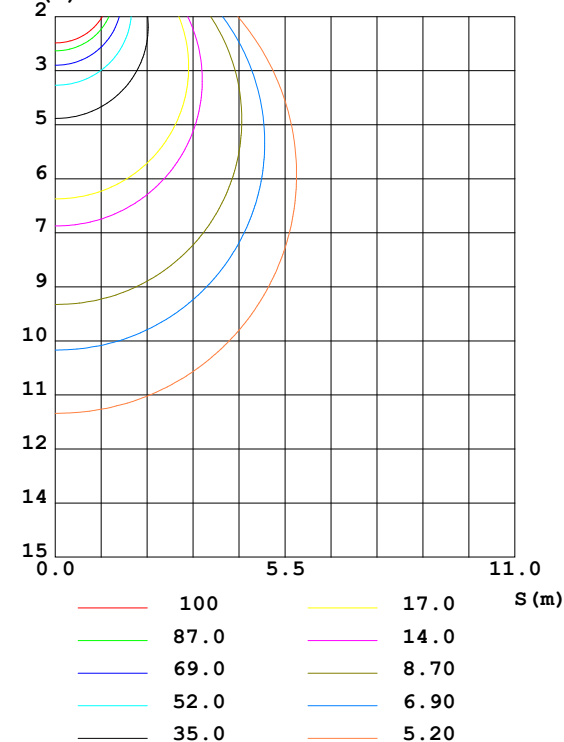
Test:U:221.0V I:0.1103A P:23.52W PF:0.9652 Freq:49.99Hz Lamp Flux:2215.26x1 lm		
NAME: MASM-24W-830-120°	TYPE:Ceiling Light	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 300mm*H40mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 94.20 lm/W			
MODEL	3000K	I <sub>max</sub> (cd)	693.3	S/MH (C0/180)	1.29
NOMINAL POWER (W)	24	LOR (%)	100.0	S/MH (C90/270)	1.29
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	2215.3	$\eta$ UP, DN (C0-180)	0.0, 49.9
NOMINAL FLUX (lm)	2215.26	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 50.1
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	220	$\eta$ down (%)	100.0	CIBSE SHR MAX	1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Jasoan  
Test Date: 2022-10-14

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 8.967m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

### ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	684.3	684.1	684.8	684.5	684.2	683.8	684.3	684.7	0- 10	65.76	65.76	2.97,2.97
20	653.9	653.9	654.5	653.9	654.3	653.5	654.4	654.7	10- 20	189.8	255.5	11.5,11.5
30	602.6	602.9	602.9	602.1	603.0	602.3	603.0	603.7	20- 30	290.9	546.5	24.7,24.7
40	532.1	532.4	532.1	531.2	532.5	531.6	532.4	533.7	30- 40	356.5	903.0	40.8,40.8
50	445.3	445.9	445.2	444.1	446.1	445.1	445.6	447.4	40- 50	378.6	1282	57.9,57.9
60	345.9	346.7	346.1	344.7	346.3	345.5	346.1	348.4	50- 60	355.1	1637	73.9,73.9
70	239.1	239.2	237.7	237.1	238.3	238.4	240.1	241.3	60- 70	289.7	1926	87,87
80	133.4	134.1	133.2	131.8	133.6	133.3	134.3	136.2	70- 80	196.2	2123	95.8,95.8
90	38.14	39.54	41.67	39.30	40.83	39.44	42.27	40.59	80- 90	92.66	2215	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1092.4 lm

%lum = 49.3%

%lamp = 49.3%

Conical surface Flux(120deg): 1636.7 lm

%lum = 73.9%

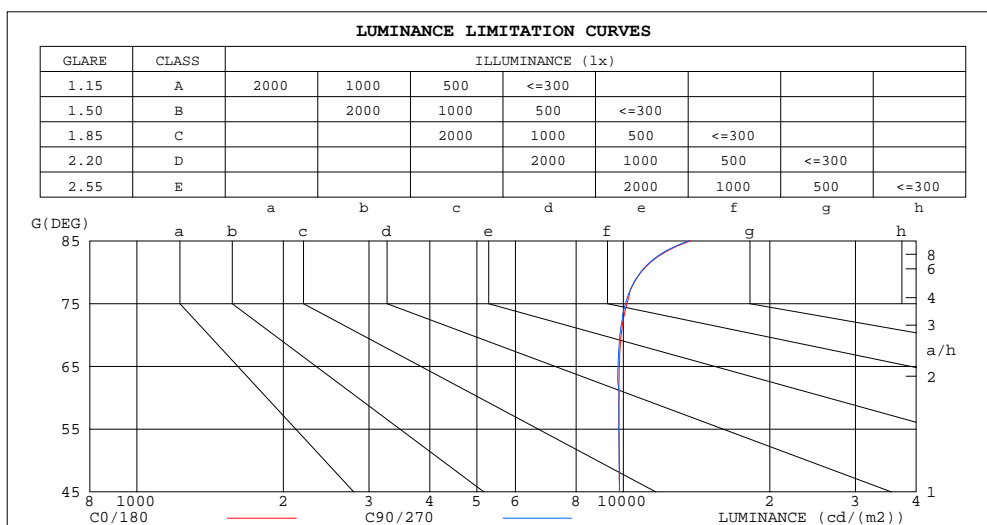
%lamp = 73.9%

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-10-14

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:221.0V I:0.1103A P:23.52W PF:0.9652 Freq:49.99Hz Lamp Flux:2215.26x1 lm		
NAME: MASM-24W-830-120°	TYPE:Ceiling Light	SERIAL No.:
SPEC.:3000K	DIM.: φ300mm*H40mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	13749	13629
80	10871	10854
75	10168	10102
70	9897	9839
65	9809	9753
60	9792	9798
55	9793	9785
50	9806	9803
45	9817	9816

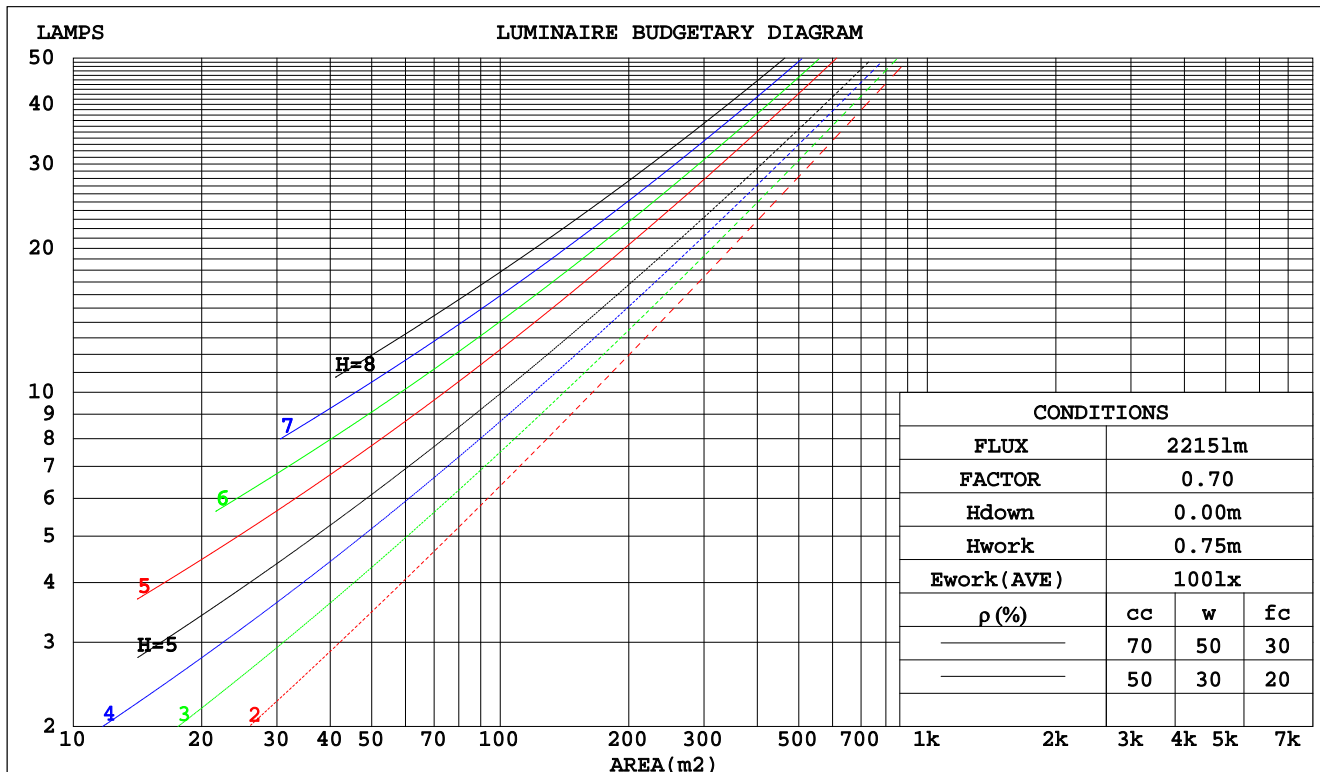
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-10-14

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:221.0V I:0.1103A P:23.52W PF:0.9652 Freq:49.99Hz Lamp Flux:2215.26x1 lm		
NAME: MASM-24W-830-120°	TYPE:Ceiling Light	SERIAL No.:
SPEC.:3000K	DIM.: φ300mm*H40mm	
MFR.: NEKO LIGHTING AG		

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	Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.02	.97	.93	.90	.95	.91	.95	.92	.88	.91	.88	.86	.88	.85	.83	.81
2.0	.88	.81	.74	.86	.79	.74	.83	.77	.72	.79	.74	.70	.76	.72	.68	.66
3.0	.77	.68	.61	.75	.67	.61	.72	.65	.60	.69	.63	.58	.67	.62	.57	.55
4.0	.68	.59	.51	.66	.58	.51	.64	.56	.50	.61	.55	.50	.59	.54	.49	.47
5.0	.60	.51	.44	.59	.50	.44	.57	.49	.43	.55	.48	.43	.53	.47	.42	.40
6.0	.54	.45	.38	.53	.44	.38	.51	.44	.38	.50	.43	.37	.48	.42	.37	.35
7.0	.49	.40	.34	.48	.40	.33	.47	.39	.33	.45	.38	.33	.44	.37	.33	.31
8.0	.45	.36	.30	.44	.36	.30	.43	.35	.30	.41	.34	.29	.40	.34	.29	.27
9.0	.41	.33	.27	.40	.32	.27	.39	.32	.27	.38	.31	.26	.37	.31	.26	.24
10.0	.38	.30	.24	.37	.29	.24	.36	.29	.24	.35	.29	.24	.34	.28	.24	.22



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-10-14

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

## WEC AND CCEC

Test:U:221.0V I:0.1103A P:23.52W PF:0.9652 Freq:49.99Hz Lamp Flux:2215.26x1 lm		
NAME: MASM-24W-830-120°	TYPE:Ceiling Light	SERIAL No.:
SPEC.:3000K	DIM.: φ300mm*H40mm	
MFR.: NEKO LIGHTING AG		

pcc	80%			70%			50%			30%			10%			0	
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.346	.197	.062	.339	.193	.061	.325	.187	.060	.313	.180	.058	.301	.175	.056		
2.0	.315	.172	.053	.308	.170	.052	.296	.165	.051	.285	.160	.050	.275	.156	.049		
3.0	.286	.152	.046	.280	.150	.045	.270	.146	.044	.260	.143	.044	.251	.139	.043		
4.0	.261	.136	.040	.256	.134	.040	.247	.131	.039	.238	.128	.039	.230	.125	.038		
5.0	.240	.122	.035	.235	.121	.035	.227	.118	.035	.219	.116	.034	.212	.113	.034		
6.0	.221	.111	.032	.217	.110	.032	.210	.107	.031	.203	.105	.031	.196	.103	.031		
7.0	.205	.101	.029	.201	.100	.029	.195	.098	.028	.188	.097	.028	.183	.095	.028		
8.0	.191	.093	.026	.187	.092	.026	.182	.091	.026	.176	.089	.026	.171	.088	.026		
9.0	.178	.086	.024	.175	.085	.024	.170	.084	.024	.165	.083	.024	.160	.081	.024		
10.0	.167	.080	.022	.165	.079	.022	.160	.078	.022	.155	.077	.022	.151	.076	.022		

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020		
1.0	.183	.156	.132	.156	.134	.113	.107	.092	.078	.062	.053	.046	.020	.017	.015		
2.0	.175	.132	.095	.150	.113	.082	.103	.078	.057	.059	.046	.034	.019	.015	.011		
3.0	.168	.114	.072	.144	.099	.062	.099	.069	.044	.057	.040	.026	.018	.013	.008		
4.0	.160	.101	.057	.137	.087	.049	.094	.061	.035	.055	.036	.020	.018	.012	.007		
5.0	.152	.091	.046	.131	.079	.040	.090	.055	.028	.052	.032	.017	.017	.011	.006		
6.0	.145	.083	.038	.124	.072	.033	.086	.050	.023	.050	.029	.014	.016	.010	.005		
7.0	.138	.076	.032	.118	.066	.028	.082	.046	.020	.048	.027	.012	.015	.009	.004		
8.0	.131	.070	.028	.113	.061	.024	.078	.043	.017	.045	.025	.010	.015	.008	.003		
9.0	.125	.065	.025	.107	.056	.022	.074	.040	.015	.043	.023	.009	.014	.008	.003		
10.0	.119	.061	.022	.102	.053	.019	.071	.037	.014	.041	.022	.008	.013	.007	.003		

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-10-14

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

Test:U:221.0V I:0.1103A P:23.52W PF:0.9652 Freq:49.99Hz Lamp Flux:2215.26x1 lm										
NAME: MASM-24W-830-120°					TYPE:Ceiling Light			SERIAL No.:		
SPEC.:3000K					DIM.: φ300mm*H40mm					
MFR.: NEKO LIGHTING AG										
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	18.1	19.6	18.3	19.8	20.1	18.0	19.6	18.3	19.8	20.0
3H	19.9	21.3	20.2	21.6	21.8	19.8	21.3	20.1	21.5	21.8
4H	20.7	22.1	21.0	22.4	22.6	20.7	22.1	21.0	22.3	22.6
6H	21.4	22.8	21.8	23.0	23.3	21.4	22.7	21.8	23.0	23.3
8H	21.8	23.1	22.1	23.4	23.7	21.8	23.0	22.1	23.3	23.6
12H	22.1	23.3	22.5	23.6	24.0	22.1	23.3	22.4	23.6	23.9
4H 2H	18.7	20.1	19.1	20.4	20.7	18.7	20.1	19.0	20.4	20.6
3H	20.8	22.0	21.1	22.3	22.6	20.7	22.0	21.1	22.3	22.6
4H	21.7	22.9	22.1	23.2	23.5	21.7	22.9	22.1	23.2	23.5
6H	22.7	23.7	23.1	24.0	24.4	22.6	23.6	23.0	24.0	24.4
8H	23.1	24.0	23.5	24.4	24.8	23.1	24.0	23.5	24.4	24.8
12H	23.5	24.4	23.9	24.8	25.2	23.5	24.3	23.9	24.7	25.1
8H 4H	22.1	23.1	22.5	23.5	23.8	22.1	23.1	22.5	23.4	23.8
6H	23.3	24.1	23.7	24.5	24.9	23.2	24.0	23.7	24.4	24.9
8H	23.8	24.5	24.3	25.0	25.4	23.8	24.5	24.3	24.9	25.4
12H	24.4	25.0	24.9	25.5	26.0	24.4	25.0	24.8	25.4	25.9
12H 4H	22.2	23.1	22.6	23.5	23.9	22.2	23.0	22.6	23.4	23.8
6H	23.4	24.1	23.9	24.5	25.0	23.4	24.1	23.8	24.5	25.0
8H	24.0	24.7	24.5	25.1	25.6	24.0	24.6	24.5	25.1	25.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.1 / - 0.3					+ 0.1 / - 0.3				

CIE Pub.117, 2215 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 2.8$ )

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-10-14

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

## UTILIZATION FACTORS TABLE

Test:U:221.0V I:0.1103A P:23.52W PF:0.9652 Freq:49.99Hz Lamp Flux:2215.26x1 lm		
NAME: MASM-24W-830-120°	TYPE:Ceiling Light	SERIAL No.:
SPEC.:3000K	DIM.: φ300mm*H40mm	
MFR.: NEKO LIGHTING AG		

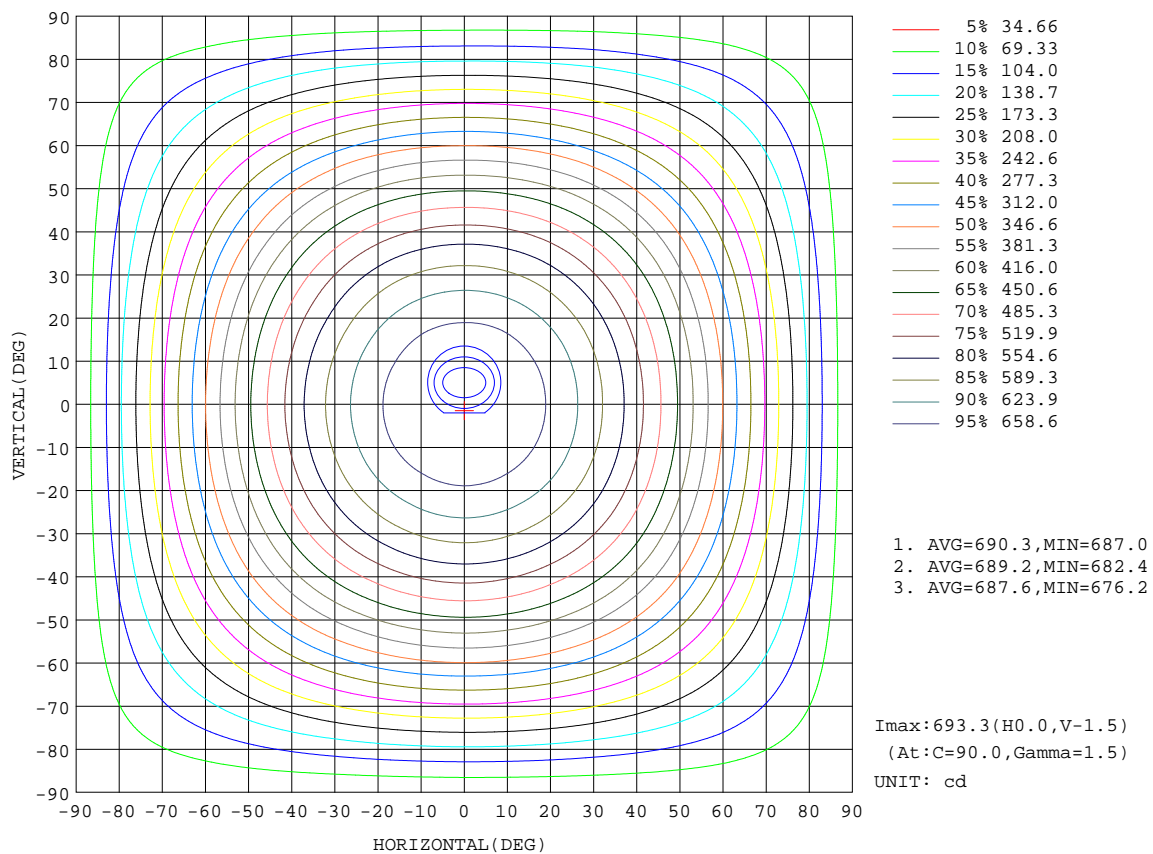
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	55	43	36	55	43	36	54	43	36	29
0.80	65	53	45	64	53	45	62	52	45	38
1.00	74	62	54	72	61	54	70	63	53	46
1.25	81	70	62	79	69	62	76	67	61	53
1.50	86	75	68	84	74	67	81	72	66	58
2.00	93	83	76	91	82	76	87	80	74	66
2.50	97	88	82	95	87	81	91	84	79	70
3.00	100	93	87	98	91	86	94	88	84	75
4.00	105	98	93	102	97	92	98	93	89	80
5.00	107	102	97	105	100	96	100	96	93	83
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-10-14

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

# ISOCANDELA DIAGRAM

Test:U:221.0V I:0.1103A P:23.52W PF:0.9652 Freq:49.99Hz Lamp Flux:2215.26x1 lm		
NAME: MASM-24W-830-120°	TYPE:Ceiling Light	SERIAL No.:
SPEC.:3000K	DIM.: φ300mm*H40mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-10-14

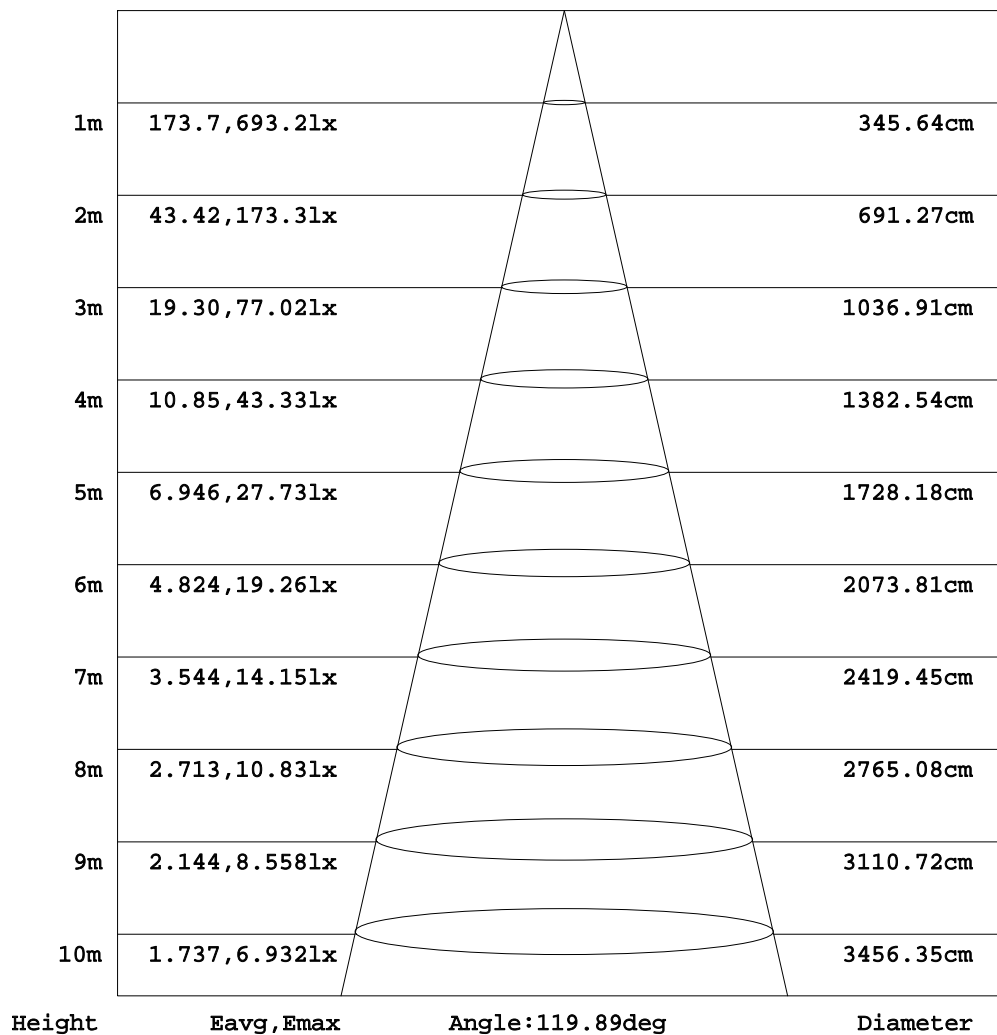
γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:



**AAI Figure**

Test:U:221.0V I:0.1103A P:23.52W PF:0.9652 Freq:49.99Hz Lamp Flux:2215.26x1 lm		
NAME: MASM-24W-830-120°	TYPE:Ceiling Light	SERIAL No.:
SPEC.:3000K	DIM.: φ300mm*H40mm	
MFR.: NEKO LIGHTING AG		

Flux out:1637 lm



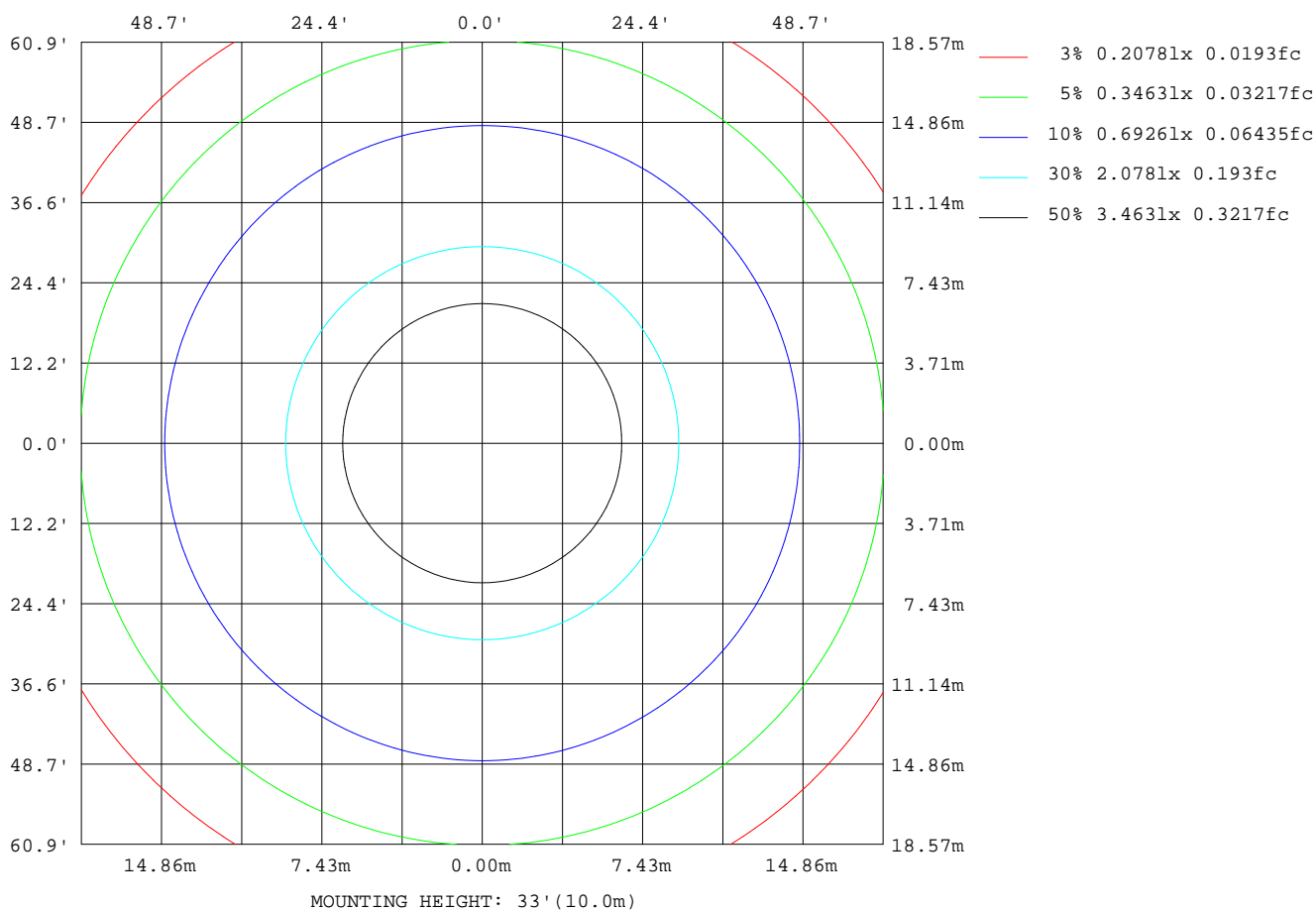
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-10-14

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

ISOLUX DIAGRAM

Test:U:221.0V I:0.1103A P:23.52W PF:0.9652 Freq:49.99Hz Lamp Flux:2215.26x1 lm		
NAME: MASM-24W-830-120°	TYPE:Ceiling Light	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 300mm*H40mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-10-14

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:221.0V I:0.1103A P:23.52W PF:0.9652 Freq:49.99Hz Lamp Flux:2215.26x1 lm		
NAME: MASM-24W-830-120°	TYPE:Ceiling Light	SERIAL No.:
SPEC.:3000K	DIM.: φ300mm*H40mm	
MFR.: NEKO LIGHTING AG		

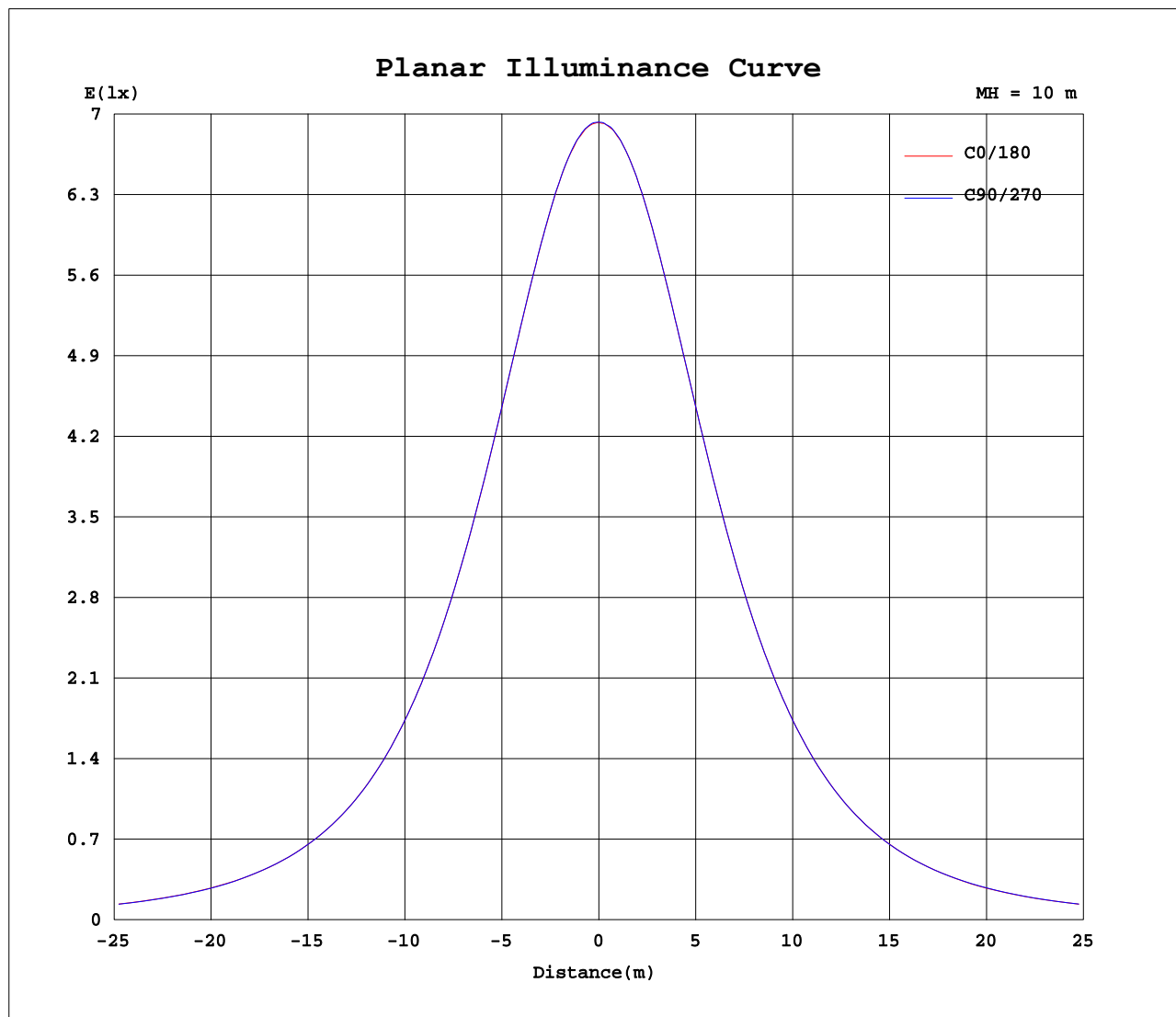
AvgL	cd/m2
L_0~180 (65) av	9792
L_0~180 (75) av	10149
L_0~180 (85) av	13733
L_90~270 (65) av	9793
L_90~270 (75) av	10162
L_90~270 (85) av	13749
L_45 (65) av	9799
L_45 (75) av	10165
L_45 (85) av	13748

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-10-14

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

### Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Jasoan  
Test Date: 2022-10-14

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 8.967m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

```