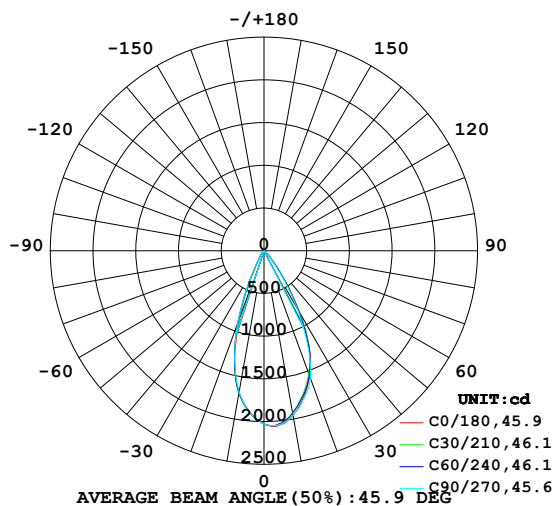


LUMINAIRE PHOTOMETRIC TEST REPORT

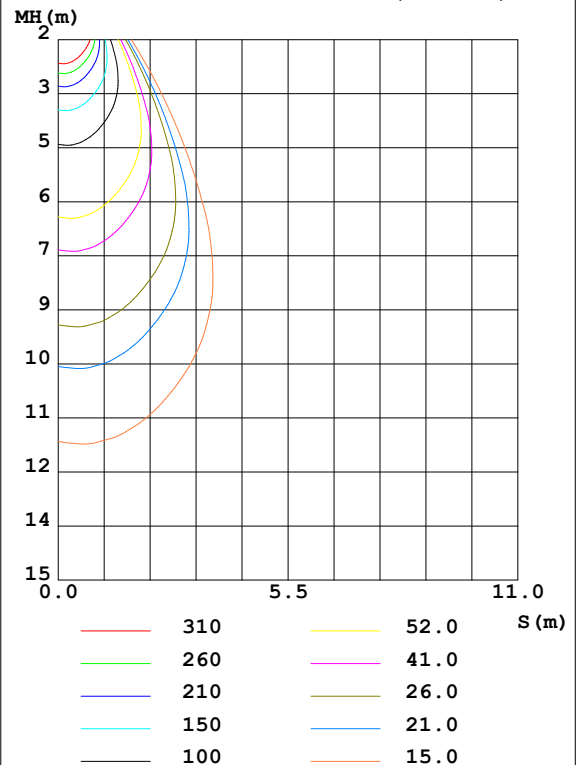
Test:U:221.0V I:0.0754A P:15.57W PF:0.9345 Freq:49.99Hz Lamp Flux:1182.17x1 lm		
NAME: MINUX 57-13W-830-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 57mm*H92mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 75.92 lm/W			
MODEL	CITIZEN-3000K	I _{max} (cd)	2060	S/MH (C0/180)	0.58
NOMINAL POWER (W)	15	LOR (%)	100.0	S/MH (C90/270)	0.59
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	1182.2	η UP, DN (C0-180)	0.0, 61.1
NOMINAL FLUX (lm)	1182.17	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 38.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	0.70

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: 2022-11-03

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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1959	1928	1957	1871	1684	1693	1680	1815	0- 10	183.8	183.8	15.5,15.5
20	1564	1541	1584	1308	845.3	885.1	904.8	1199	10- 20	432.3	616.1	52.1,52.1
30	835.9	809.9	774.8	438.8	150.1	161.8	172.4	391.2	20- 30	374.5	990.6	83.8,83.8
40	177.2	164.2	135.5	66.34	44.79	46.82	49.54	77.62	30- 40	145.0	1136	96.1,96.1
50	38.86	34.71	23.66	12.41	12.07	12.50	13.97	23.35	40- 50	36.17	1172	99.1,99.1
60	7.590	5.752	2.497	0.9481	1.172	1.509	2.573	5.234	50- 60	9.107	1181	99.9,99.9
70	0.4137	0.1656	0.0220	0.0353	0.0271	0.0326	0.0385	0.4378	60- 70	1.218	1182	100,100
80	0.0379	0.0299	0.0220	0.0273	0.0325	0.0326	0.0330	0.0381	70- 80	0.0454	1182	100,100
90	0.0271	0.0245	0.0220	0.0272	0.0325	0.0326	0.0330	0.0327	80- 90	0.0325	1182	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): 1159.2 lm

%lum = 98.1%

%lamp = 98.1%

Conical surface Flux(120deg): 1180.9 lm

%lum = 99.9%

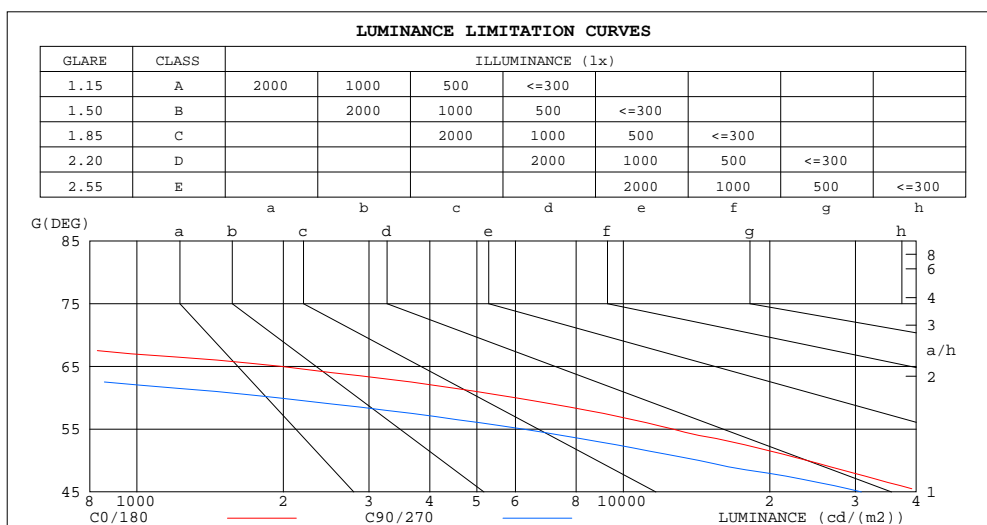
%lamp = 99.9%

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:0.0754A P:15.57W PF:0.9345 Freq:49.99Hz Lamp Flux:1182.17x1 lm		
NAME: MINUX 57-13W-830-45D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 57mm*H92mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	123	98
80	86	49
75	66	33
70	477	25
65	1973	525
60	5989	1939
55	12636	6216
50	23856	14286
45	41621	30856

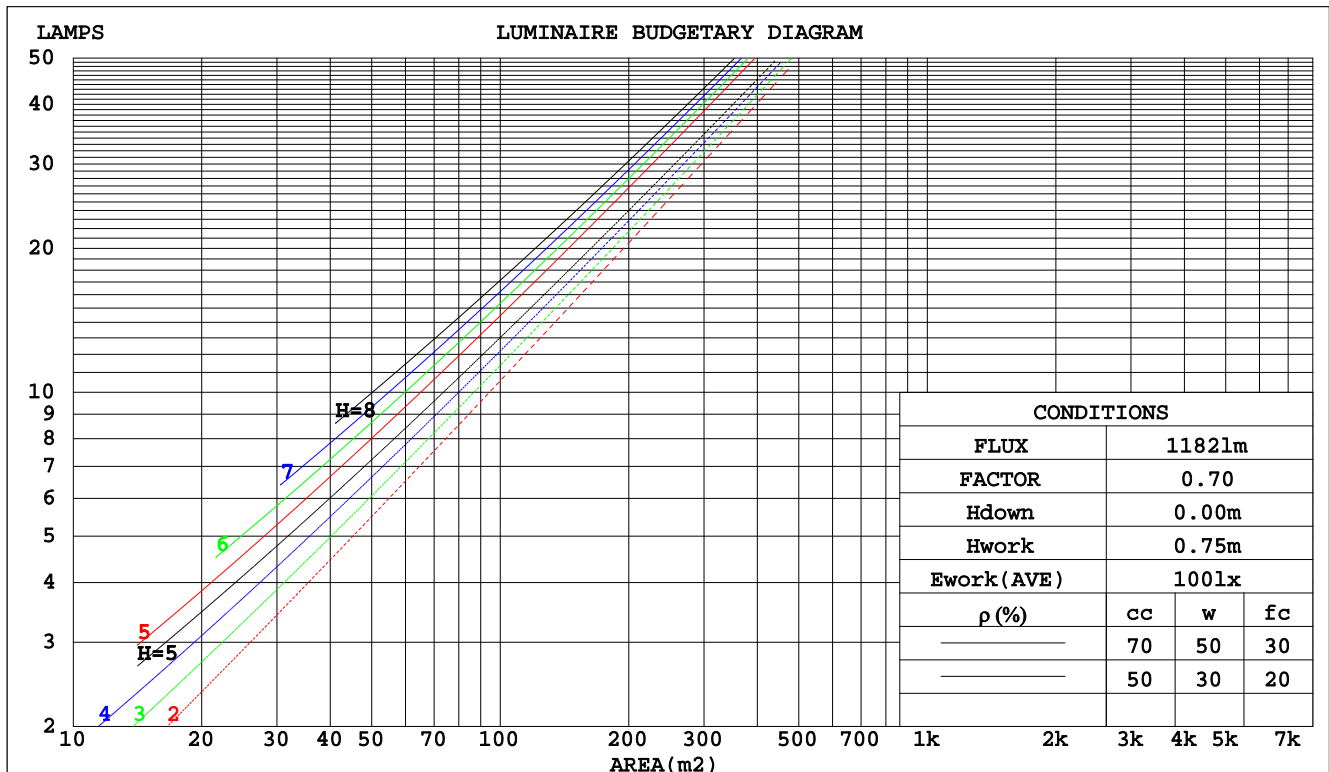
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:0.0754A P:15.57W PF:0.9345 Freq:49.99Hz Lamp Flux:1182.17x1 lm		
NAME: MINUX 57-13W-830-45D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 57mm*H92mm	
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	RCR:Room Cavity Ratio						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	1.12	1.09	1.07	1.09	1.07	1.06	1.05	1.04	1.02	1.02	1.00	.99	.98	.97	.96	.95
2.0	1.05	1.01	.98	1.03	.90	.97	.90	.97	.95	.97	.95	.93	.94	.92	.91	.89
3.0	.99	.94	.91	.97	.93	.90	.95	.91	.88	.92	.90	.87	.90	.88	.86	.84
4.0	.93	.88	.84	.92	.87	.84	.90	.86	.83	.88	.85	.82	.86	.83	.81	.80
5.0	.88	.83	.79	.87	.82	.79	.85	.81	.78	.84	.80	.77	.82	.79	.77	.75
6.0	.84	.78	.74	.83	.78	.74	.81	.77	.74	.80	.76	.73	.79	.75	.73	.71
7.0	.79	.74	.70	.79	.74	.70	.78	.73	.70	.76	.72	.69	.75	.72	.69	.68
8.0	.76	.70	.67	.75	.70	.66	.74	.69	.66	.73	.69	.66	.72	.68	.66	.64
9.0	.72	.67	.63	.72	.67	.63	.71	.66	.63	.70	.66	.63	.69	.65	.62	.61
10.0	.69	.64	.60	.68	.63	.60	.68	.63	.60	.67	.63	.60	.66	.62	.60	.58



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:0.0754A P:15.57W PF:0.9345 Freq:49.99Hz Lamp Flux:1182.17x1 lm		
NAME: MINUX 57-13W-830-45D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 57mm*H92mm	
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	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.163	.092	.029	.156	.089	.028	.143	.082	.026	.132	.076	.024	.121	.070	.023		
2.0	.154	.085	.026	.149	.082	.025	.138	.077	.024	.129	.072	.023	.120	.068	.021		
3.0	.146	.078	.023	.142	.076	.023	.133	.072	.022	.125	.068	.021	.117	.065	.020		
4.0	.139	.072	.021	.135	.071	.021	.128	.068	.020	.120	.065	.020	.114	.062	.019		
5.0	.132	.068	.020	.129	.066	.019	.122	.064	.019	.116	.061	.018	.111	.059	.018		
6.0	.126	.063	.018	.123	.062	.018	.118	.060	.018	.112	.058	.017	.107	.056	.017		
7.0	.121	.060	.017	.118	.059	.017	.113	.057	.016	.108	.056	.016	.104	.054	.016		
8.0	.116	.057	.016	.113	.056	.016	.109	.054	.016	.105	.053	.015	.101	.052	.015		
9.0	.111	.054	.015	.109	.053	.015	.105	.052	.015	.101	.051	.015	.098	.050	.014		
10.0	.107	.051	.014	.105	.051	.014	.101	.050	.014	.098	.049	.014	.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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020		
1.0	.170	.157	.146	.146	.135	.126	.100	.093	.087	.057	.054	.051	.018	.017	.016		
2.0	.154	.133	.115	.132	.114	.099	.090	.079	.069	.052	.046	.041	.017	.015	.013		
3.0	.141	.113	.092	.121	.098	.080	.083	.068	.056	.048	.040	.033	.015	.013	.011		
4.0	.130	.099	.075	.111	.085	.065	.077	.059	.046	.044	.035	.027	.014	.011	.009		
5.0	.121	.087	.062	.104	.075	.054	.071	.052	.038	.041	.031	.022	.013	.010	.007		
6.0	.113	.077	.052	.097	.067	.045	.067	.047	.032	.039	.028	.019	.013	.009	.006		
7.0	.106	.069	.044	.091	.060	.038	.063	.042	.027	.037	.025	.016	.012	.008	.005		
8.0	.100	.063	.038	.086	.055	.033	.060	.038	.023	.035	.023	.014	.011	.007	.005		
9.0	.095	.058	.033	.082	.050	.028	.057	.035	.020	.033	.021	.012	.011	.007	.004		
10.0	.090	.053	.029	.078	.046	.025	.054	.033	.018	.032	.019	.011	.010	.006	.004		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:0.0754A P:15.57W PF:0.9345 Freq:49.99Hz Lamp Flux:1182.17x1 lm										
NAME: MINUX 57-13W-830-45D					TYPE:Downlight			SERIAL No.:		
SPEC.:3000K					DIM.: ϕ 57mm*H92mm					
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	21.9	22.7	22.1	22.9	23.0	21.4	22.3	21.6	22.4	22.6
3H	21.7	22.5	22.0	22.7	22.9	21.3	22.0	21.5	22.2	22.4
4H	21.6	22.4	21.9	22.6	22.8	21.2	21.9	21.4	22.1	22.3
6H	21.5	22.2	21.8	22.5	22.7	21.1	21.8	21.4	22.0	22.3
8H	21.5	22.2	21.8	22.4	22.7	21.0	21.7	21.3	22.0	22.2
12H	21.5	22.1	21.8	22.4	22.6	21.0	21.6	21.3	21.9	22.2
4H 2H	21.6	22.4	21.9	22.6	22.8	21.2	21.9	21.5	22.1	22.4
3H	21.5	22.1	21.8	22.4	22.6	21.0	21.6	21.3	21.9	22.2
4H	21.4	21.9	21.7	22.2	22.5	20.9	21.5	21.3	21.8	22.1
6H	21.3	21.8	21.6	22.1	22.5	20.8	21.3	21.2	21.7	22.0
8H	21.2	21.7	21.6	22.0	22.4	20.8	21.2	21.2	21.6	22.0
12H	21.2	21.6	21.6	22.0	22.4	20.7	21.1	21.1	21.5	21.9
8H 4H	21.2	21.7	21.6	22.0	22.4	20.8	21.2	21.2	21.6	22.0
6H	21.1	21.5	21.5	21.9	22.3	20.7	21.0	21.1	21.4	21.9
8H	21.1	21.4	21.5	21.8	22.3	20.6	20.9	21.0	21.4	21.8
12H	21.0	21.3	21.5	21.7	22.2	20.5	20.8	21.0	21.3	21.7
12H 4H	21.2	21.6	21.6	22.0	22.4	20.7	21.1	21.1	21.5	21.9
6H	21.1	21.4	21.5	21.8	22.3	20.6	20.9	21.0	21.4	21.8
8H	21.0	21.3	21.5	21.7	22.2	20.5	20.8	21.0	21.3	21.7
Variations with the observer position at spacings:										
S = 1.0H	+ 3.8 / -11.0					+ 3.4 / -15.1				
1.5H	+ 5.9 / - 7.9					+ 5.6 / - 9.0				
2.0H	+ 5.6 / -11.2					+ 5.7 / -14.0				

CIE Pub.117, 1182 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 0.6$)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:0.0754A P:15.57W PF:0.9345 Freq:49.99Hz Lamp Flux:1182.17x1 lm		
NAME: MINUX 57-13W-830-45D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 57mm*H92mm	
MFR.: NEKO LIGHTING AG		

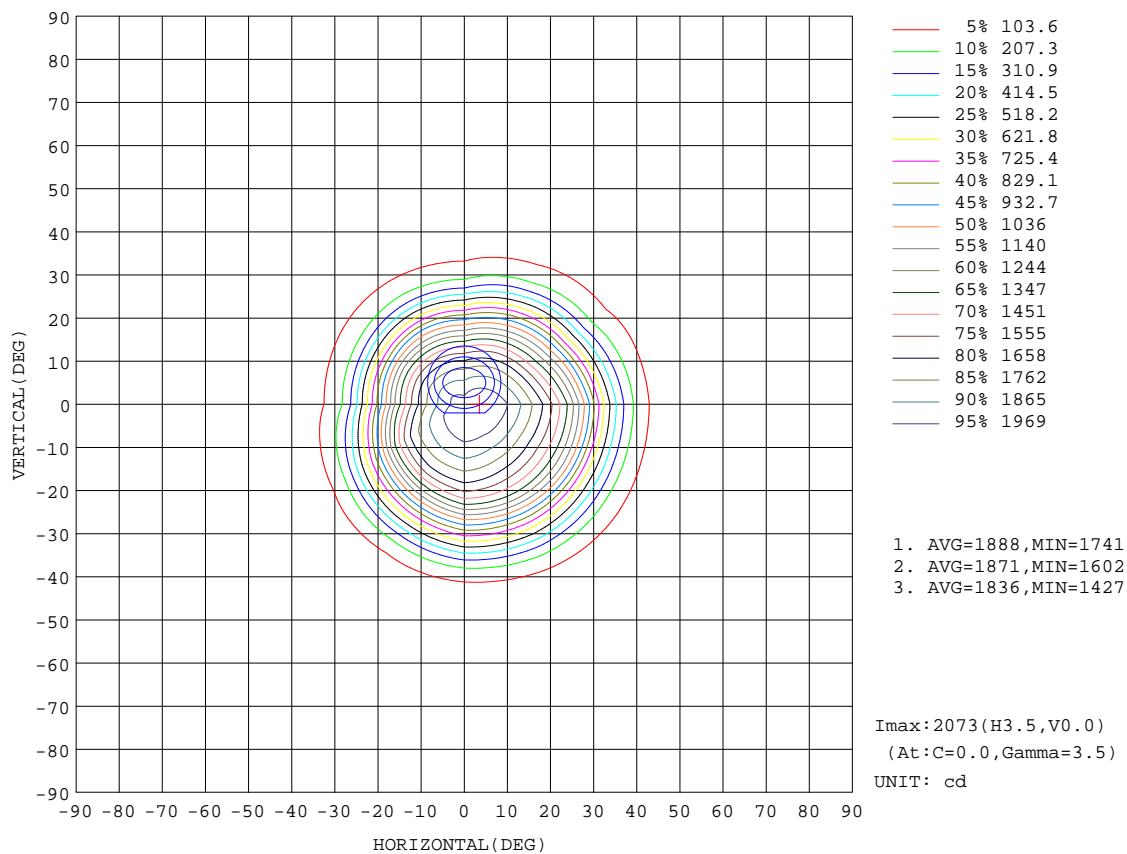
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	79	89	83	79	88	82	79	76
0.80	96	91	87	96	90	87	95	90	87	83
1.00	101	95	92	100	95	92	98	95	91	87
1.25	104	99	96	103	99	96	101	98	95	91
1.50	107	102	99	106	102	99	103	100	98	93
2.00	109	105	102	108	104	102	105	102	100	95
2.50	111	107	104	109	106	104	106	104	102	96
3.00	112	109	106	111	108	105	107	105	103	97
4.00	114	112	110	112	110	108	109	107	105	98
5.00	115	113	112	113	111	110	109	108	107	99
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:2022-11-03

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:0.0754A P:15.57W PF:0.9345 Freq:49.99Hz Lamp Flux:1182.17x1 lm		
NAME: MINUX 57-13W-830-45D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 57mm*H92mm	
MFR.: NEKO LIGHTING AG		



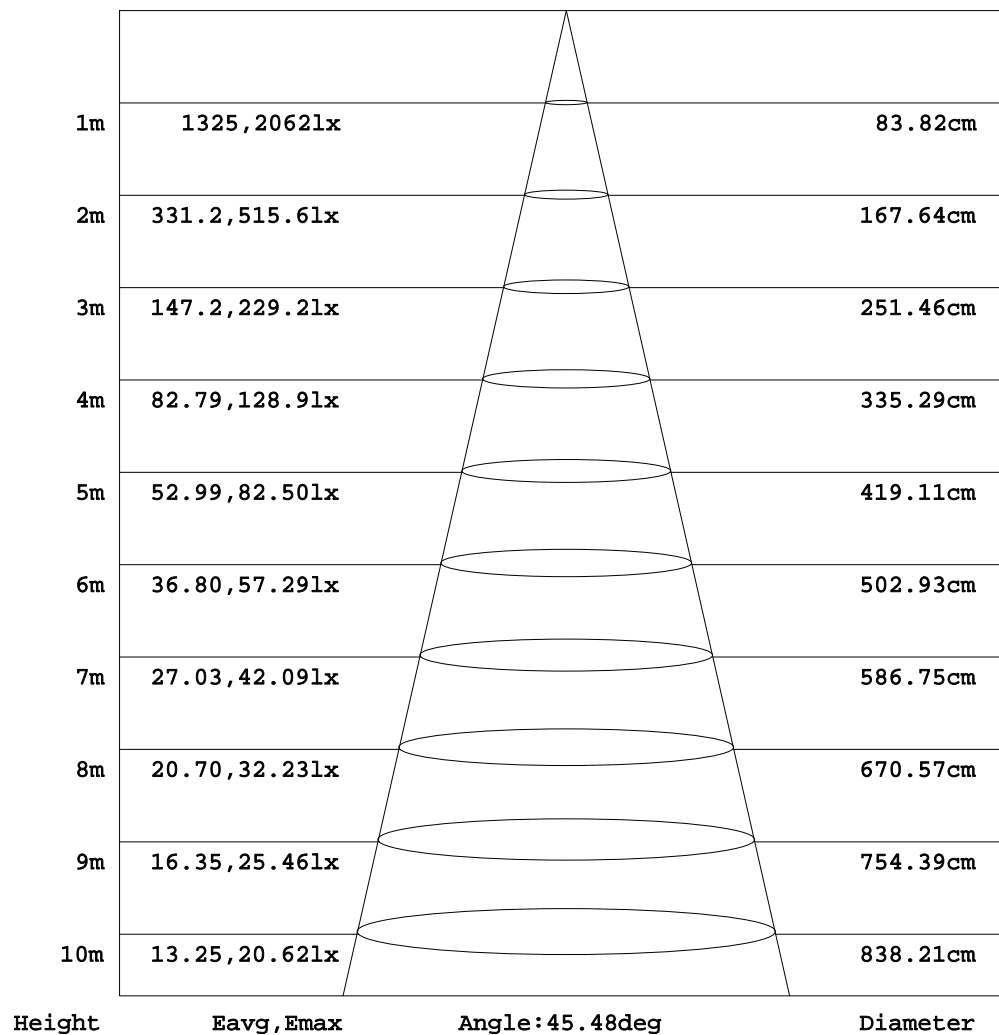
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:0.0754A P:15.57W PF:0.9345 Freq:49.99Hz Lamp Flux:1182.17x1 lm		
NAME: MINUX 57-13W-830-45D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi 57\text{mm} \times H92\text{mm}$	
MFR.: NEKO LIGHTING AG		

Flux out:749.8 lm



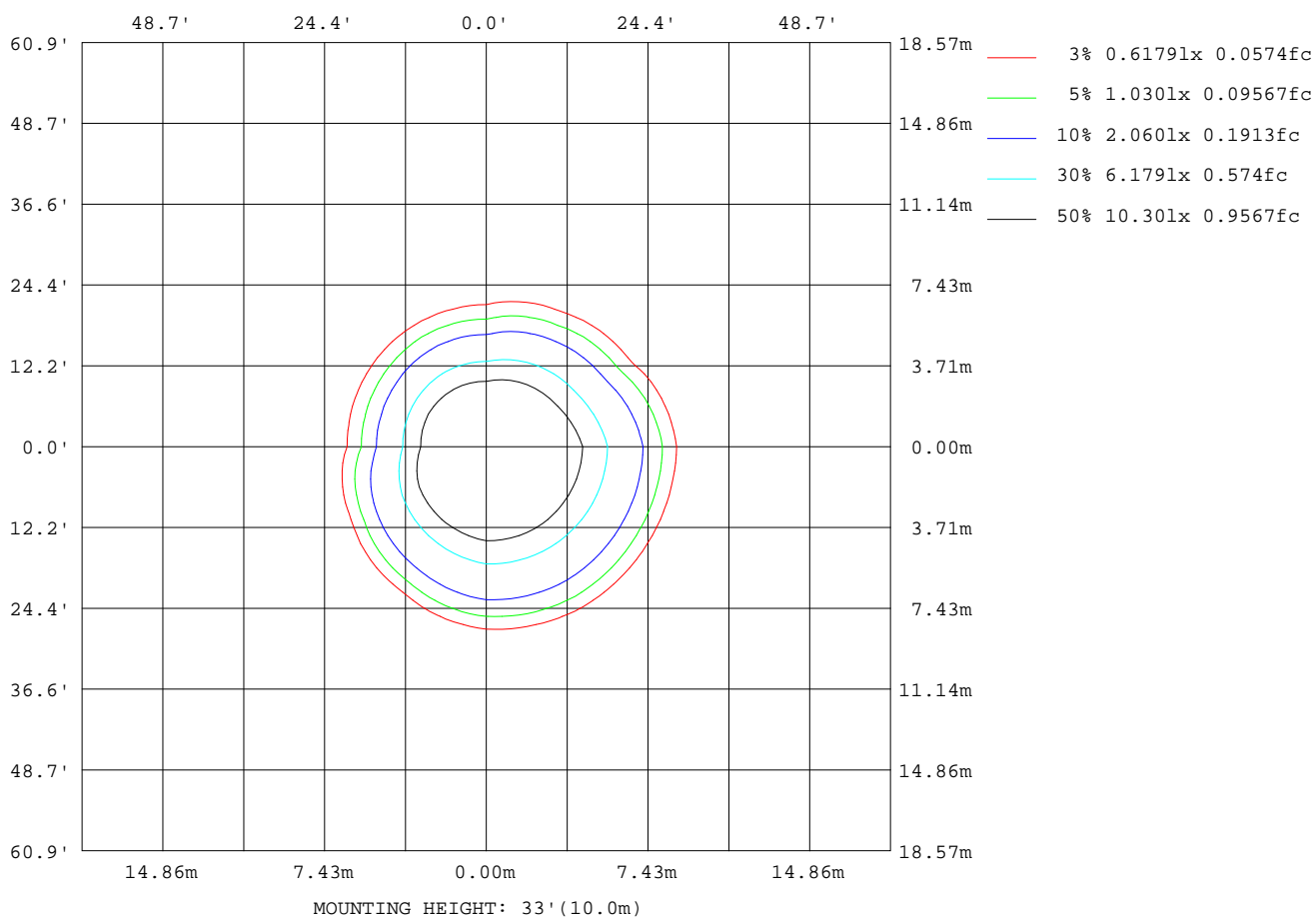
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:0.0754A P:15.57W PF:0.9345 Freq:49.99Hz Lamp Flux:1182.17x1 lm		
NAME: MINUX 57-13W-830-45D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 57mm*H92mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:

LED Avg.L Report

Test:U:221.0V I:0.0754A P:15.57W PF:0.9345 Freq:49.99Hz Lamp Flux:1182.17x1 lm		
NAME: MINUX 57-13W-830-45D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 57mm*H92mm	
MFR.: NEKO LIGHTING AG		

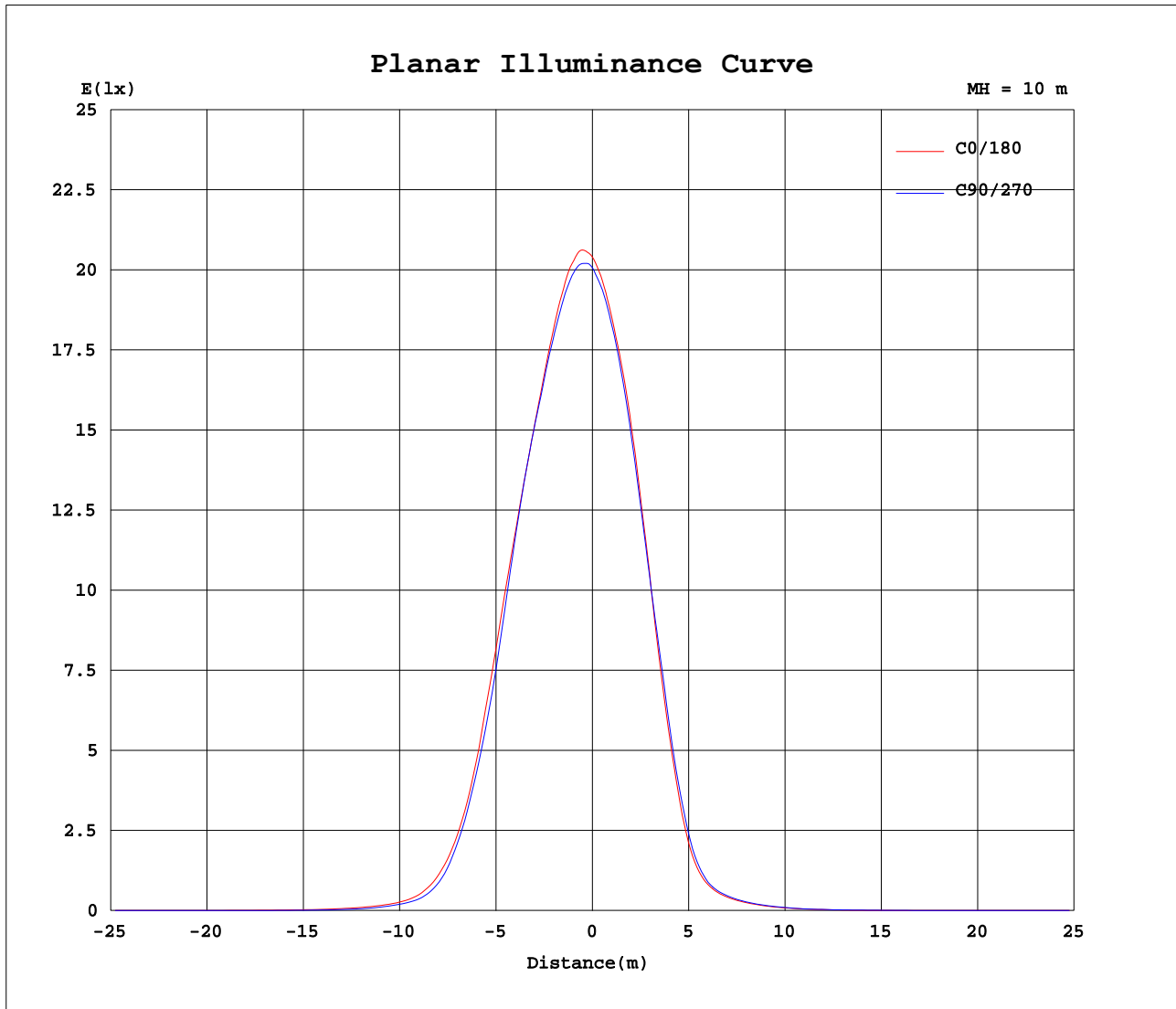
AvgL	cd/m2
L_0~180 (65) av	995
L_0~180 (75) av	53
L_0~180 (85) av	134
L_90~270 (65) av	698
L_90~270 (75) av	42
L_90~270 (85) av	124
L_45 (65) av	931
L_45 (75) av	49
L_45 (85) av	135

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

γ Range: 0 - 90DEG
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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: 2022-11-03

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:

```

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:

```