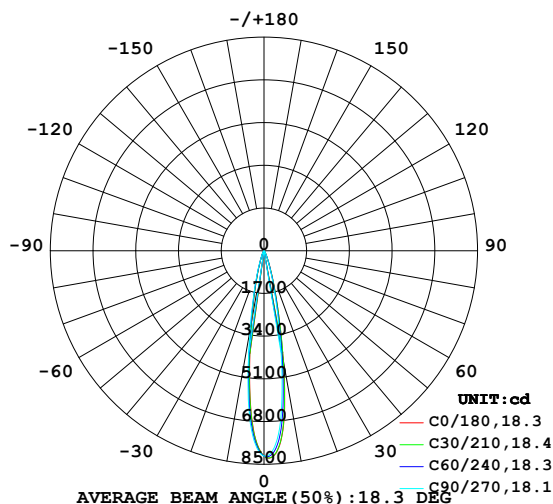


LUMINAIRE PHOTOMETRIC TEST REPORT

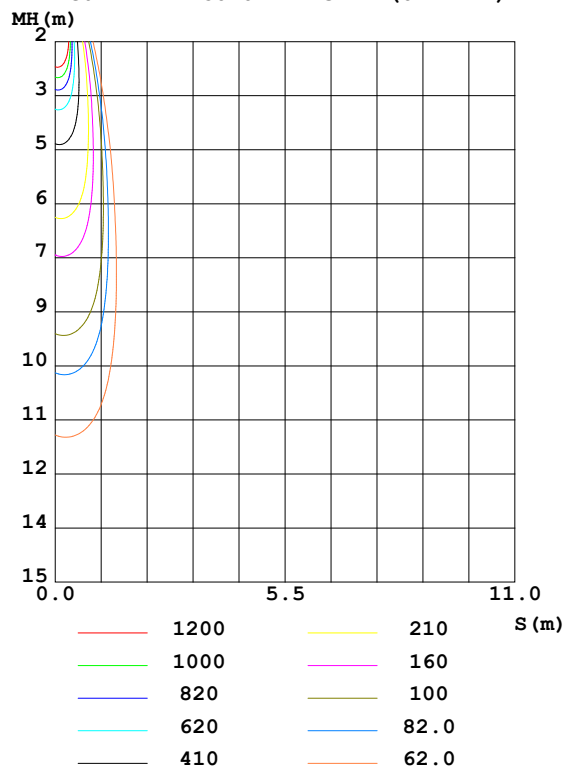
Test:U:221.1V I:0.0753A P:15.56W PF:0.9342 Freq:49.99Hz Lamp Flux:1171.82x1 lm		
NAME: MINUX 57-13W-830-18D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 57mm*H92mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 75.31 lm/W			
MODEL	CITIZEN-3000K	I _{max} (cd)	8255	S/MH (C0/180)	0.27
NOMINAL POWER (W)	15	LOR (%)	100.0	S/MH (C90/270)	0.30
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	1171.8	η UP, DN (C0-180)	0.0, 53.6
NOMINAL FLUX (lm)	1171.82	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 46.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	1.00

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	4449	4256	3827	3232	2824	2960	3189	3782	0- 10	542.9	542.9	46.3,46.3
20	697.1	664.9	611.1	510.8	438.3	454.7	492.3	569.6	10- 20	419.1	962.1	82.1,82.1
30	153.5	144.8	137.0	121.5	111.1	113.2	119.7	130.5	20- 30	122.2	1084	92.5,92.5
40	56.38	55.47	54.65	50.45	46.87	48.39	49.34	50.89	30- 40	50.39	1135	96.8,96.8
50	22.36	22.13	21.63	19.22	17.10	17.72	18.26	19.60	40- 50	26.17	1161	99.1,99.1
60	5.557	5.247	5.495	4.458	2.842	3.502	3.607	4.390	50- 60	9.664	1170	99.9,99.9
70	0.0494	0.0355	0.0272	0.0408	0.0164	0.0245	0.0381	0.0326	60- 70	1.264	1172	100,100
80	0.0328	0.0327	0.0272	0.0326	0.0164	0.0218	0.0273	0.0299	70- 80	0.0316	1172	100,100
90	0.0273	0.0272	0.0272	0.0326	0.0164	0.0218	0.0272	0.0299	80- 90	0.0303	1172	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): 1150.2 lm

%lum = 98.2%

%lamp = 98.2%

Conical surface Flux(120deg): 1170.5 lm

%lum = 99.9%

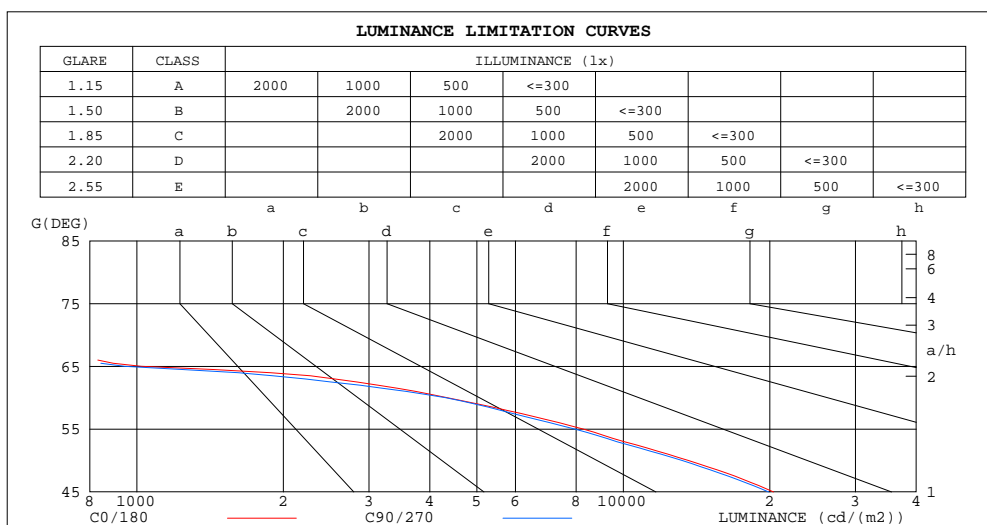
%lamp = 99.9%

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:221.1V I:0.0753A P:15.56W PF:0.9342 Freq:49.99Hz Lamp Flux:1171.82x1 lm		
NAME: MINUX 57-13W-830-18D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing 57\text{mm} \times H92\text{mm}$	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	147	123
80	74	61
75	58	41
70	56	31
65	1021	943
60	4344	4311
55	8272	7942
50	13597	13200
45	20354	19888

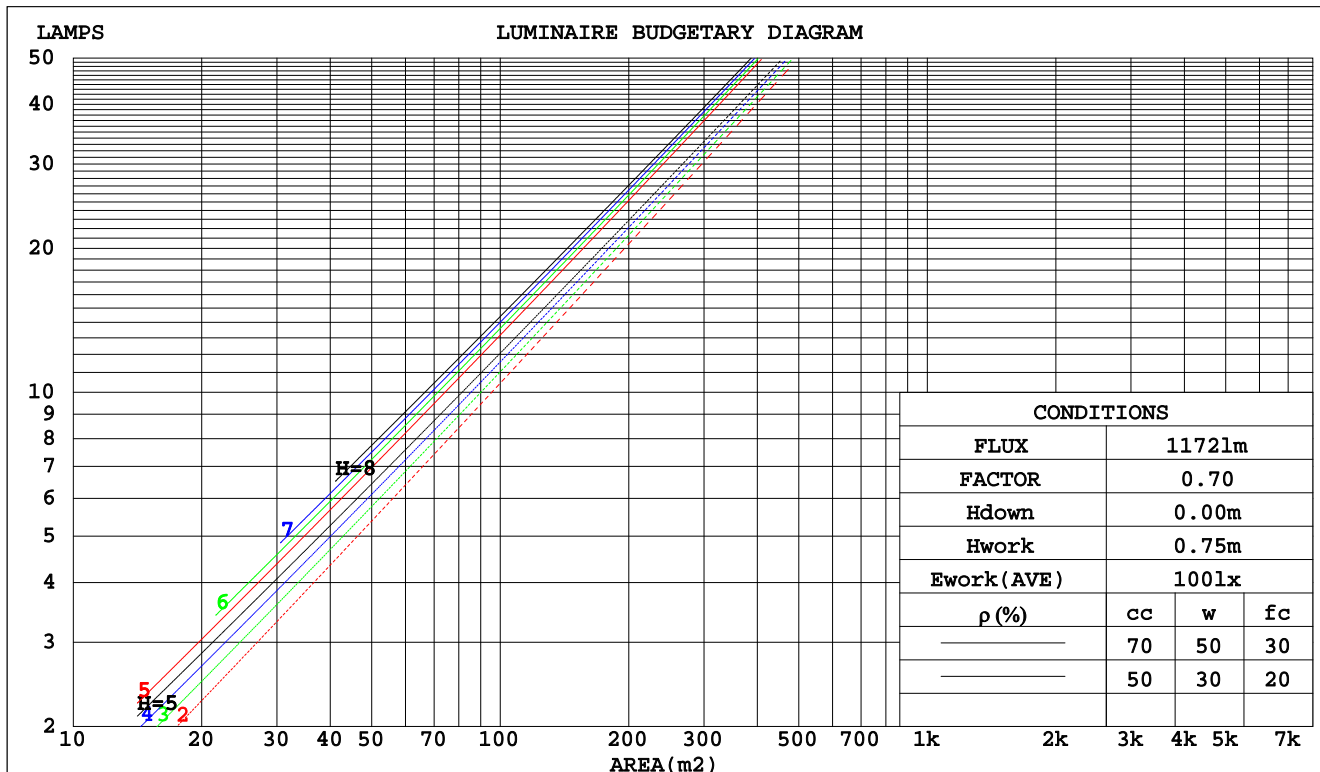
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:221.1V I:0.0753A P:15.56W PF:0.9342 Freq:49.99Hz Lamp Flux:1171.82x1 lm		
NAME: MINUX 57-13W-830-18D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing 57\text{mm} \times H92\text{mm}$	
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	1.13	1.11	1.10	1.11	1.09	1.08	1.07	1.06	1.05	1.03	1.02	1.02	1.00	.99	.99	.97
2.0	1.08	1.05	1.03	1.06	1.04	1.02	1.03	1.01	.00	1.01	.99	.97	.98	.97	.95	.94
3.0	1.04	1.00	.98	1.02	.99	.97	1.00	.97	.95	.98	.96	.94	.96	.94	.93	.91
4.0	1.00	.96	.93	.99	.96	.93	.97	.94	.92	.95	.93	.91	.94	.91	.90	.89
5.0	.97	.93	.90	.96	.92	.90	.94	.91	.89	.93	.90	.88	.91	.89	.87	.86
6.0	.94	.90	.87	.93	.89	.87	.92	.89	.86	.91	.88	.86	.89	.87	.85	.84
7.0	.91	.87	.84	.90	.87	.84	.89	.86	.84	.88	.86	.83	.87	.85	.83	.82
8.0	.89	.85	.82	.88	.84	.82	.87	.84	.82	.86	.83	.81	.86	.83	.81	.80
9.0	.86	.83	.80	.86	.82	.80	.85	.82	.80	.85	.82	.79	.84	.81	.79	.78
10.0	.84	.81	.78	.84	.81	.78	.83	.80	.78	.83	.80	.78	.82	.80	.78	.77



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:221.1V I:0.0753A P:15.56W PF:0.9342 Freq:49.99Hz Lamp Flux:1171.82x1 lm		
NAME: MINUX 57-13W-830-18D	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	.132	.075	.024	.125	.071	.023	.113	.065	.021	.101	.059	.019	.091	.053	.017		
2.0	.122	.067	.021	.117	.064	.020	.106	.059	.018	.097	.054	.017	.088	.050	.016		
3.0	.113	.060	.018	.109	.058	.018	.100	.054	.017	.093	.051	.016	.085	.047	.015		
4.0	.106	.055	.016	.102	.053	.016	.095	.050	.015	.088	.047	.014	.082	.045	.014		
5.0	.099	.051	.015	.096	.049	.014	.090	.047	.014	.085	.045	.013	.079	.042	.013		
6.0	.094	.047	.013	.091	.046	.013	.086	.044	.013	.081	.042	.012	.076	.040	.012		
7.0	.089	.044	.012	.086	.043	.012	.082	.041	.012	.078	.040	.012	.074	.038	.011		
8.0	.084	.041	.012	.082	.040	.011	.078	.039	.011	.074	.038	.011	.071	.036	.011		
9.0	.080	.039	.011	.078	.038	.011	.075	.037	.010	.072	.036	.010	.069	.035	.010		
10.0	.076	.037	.010	.075	.036	.010	.072	.035	.010	.069	.034	.010	.066	.033	.010		

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	.168	.158	.148	.144	.135	.128	.098	.093	.088	.057	.054	.051	.018	.017	.017		
2.0	.150	.133	.119	.128	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014		
3.0	.134	.113	.096	.115	.098	.084	.079	.068	.059	.046	.040	.035	.015	.013	.011		
4.0	.122	.098	.080	.104	.085	.069	.072	.059	.049	.041	.034	.029	.013	.011	.009		
5.0	.111	.085	.067	.095	.074	.058	.066	.052	.041	.038	.030	.024	.012	.010	.008		
6.0	.102	.075	.056	.087	.065	.049	.060	.046	.035	.035	.027	.021	.011	.009	.007		
7.0	.094	.067	.048	.081	.058	.042	.056	.041	.030	.032	.024	.018	.010	.008	.006		
8.0	.087	.060	.042	.075	.052	.036	.052	.037	.026	.030	.022	.015	.010	.007	.005		
9.0	.081	.054	.036	.070	.047	.032	.048	.033	.022	.028	.020	.013	.009	.006	.004		
10.0	.076	.050	.032	.066	.043	.028	.046	.030	.020	.027	.018	.012	.009	.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:221.1V I:0.0753A P:15.56W PF:0.9342 Freq:49.99Hz Lamp Flux:1171.82x1 lm										
NAME: MINUX 57-13W-830-18D					TYPE:Downlight			SERIAL No.:		
SPEC.:3000K					DIM.: \varnothing 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	13.1	13.8	13.3	13.9	14.1	12.9	13.5	13.1	13.6	13.8
3H	13.0	13.6	13.2	13.8	13.9	12.7	13.3	13.0	13.5	13.7
4H	12.9	13.5	13.2	13.7	13.9	12.7	13.2	12.9	13.4	13.6
6H	12.8	13.4	13.1	13.6	13.8	12.6	13.1	12.9	13.3	13.6
8H	12.8	13.3	13.1	13.5	13.8	12.5	13.0	12.8	13.3	13.5
12H	12.8	13.2	13.1	13.5	13.8	12.5	13.0	12.8	13.2	13.5
4H 2H	13.0	13.5	13.2	13.7	14.0	12.7	13.3	13.0	13.5	13.7
3H	12.8	13.3	13.1	13.6	13.8	12.6	13.1	12.9	13.3	13.6
4H	12.7	13.2	13.1	13.5	13.8	12.5	12.9	12.8	13.2	13.5
6H	12.6	13.0	13.0	13.3	13.7	12.4	12.8	12.7	13.1	13.4
8H	12.6	12.9	13.0	13.3	13.6	12.3	12.7	12.7	13.0	13.4
12H	12.5	12.9	12.9	13.2	13.6	12.3	12.6	12.7	13.0	13.4
8H 4H	12.6	12.9	13.0	13.3	13.6	12.3	12.7	12.7	13.0	13.4
6H	12.5	12.8	12.9	13.2	13.6	12.2	12.5	12.6	12.9	13.3
8H	12.4	12.7	12.8	13.1	13.5	12.1	12.4	12.6	12.8	13.3
12H	12.3	12.6	12.8	13.0	13.5	12.1	12.3	12.5	12.8	13.2
12H 4H	12.5	12.9	12.9	13.2	13.6	12.3	12.6	12.7	13.0	13.4
6H	12.4	12.7	12.8	13.1	13.5	12.1	12.4	12.6	12.8	13.3
8H	12.3	12.6	12.8	13.0	13.5	12.1	12.3	12.5	12.8	13.2
Variations with the observer position at spacings:										
S = 1.0H	+ 2.1 / - 5.5					+ 2.1 / - 5.7				
1.5H	+ 2.8 / - 3.6					+ 2.7 / - 3.6				
2.0H	+ 4.4 / - 9.2					+ 4.5 / - 9.9				

CIE Pub.117, 1172 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:221.1V I:0.0753A P:15.56W PF:0.9342 Freq:49.99Hz Lamp Flux:1171.82x1 lm		
NAME: MINUX 57-13W-830-18D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing 57\text{mm} \times H92\text{mm}$	
MFR.: NEKO LIGHTING AG		

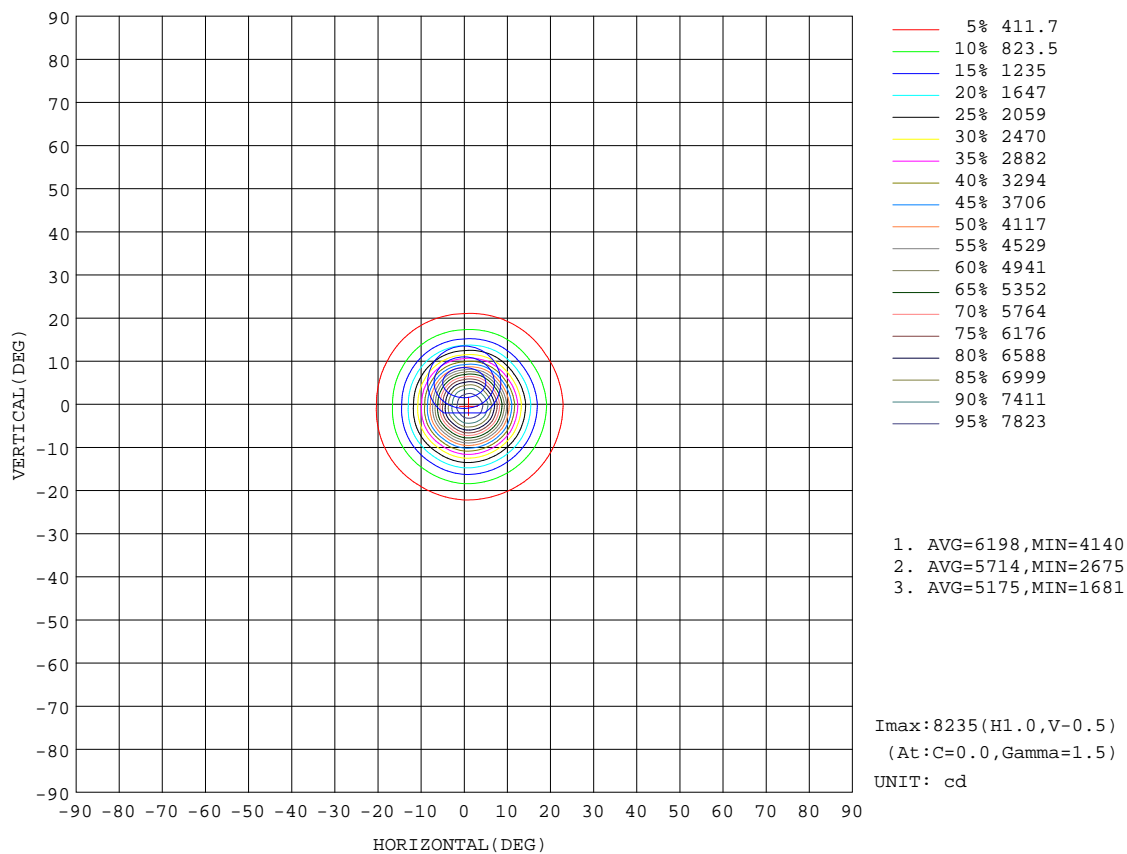
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	80	89	83	80	88	83	80	76
0.80	97	91	88	96	91	88	95	90	87	84
1.00	101	96	92	100	95	92	98	95	91	88
1.25	105	100	96	104	99	96	102	98	95	91
1.50	107	103	100	106	102	99	104	100	98	94
2.00	109	106	103	108	104	102	105	103	100	95
2.50	111	107	105	109	106	104	106	104	102	96
3.00	112	109	107	111	108	106	107	105	103	97
4.00	114	112	110	112	110	108	109	107	106	99
5.00	115	113	112	113	112	110	109	108	107	100
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:221.1V I:0.0753A P:15.56W PF:0.9342 Freq:49.99Hz Lamp Flux:1171.82x1 lm		
NAME: MINUX 57-13W-830-18D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 57mm*H92mm	
MFR.: NEKO LIGHTING AG		

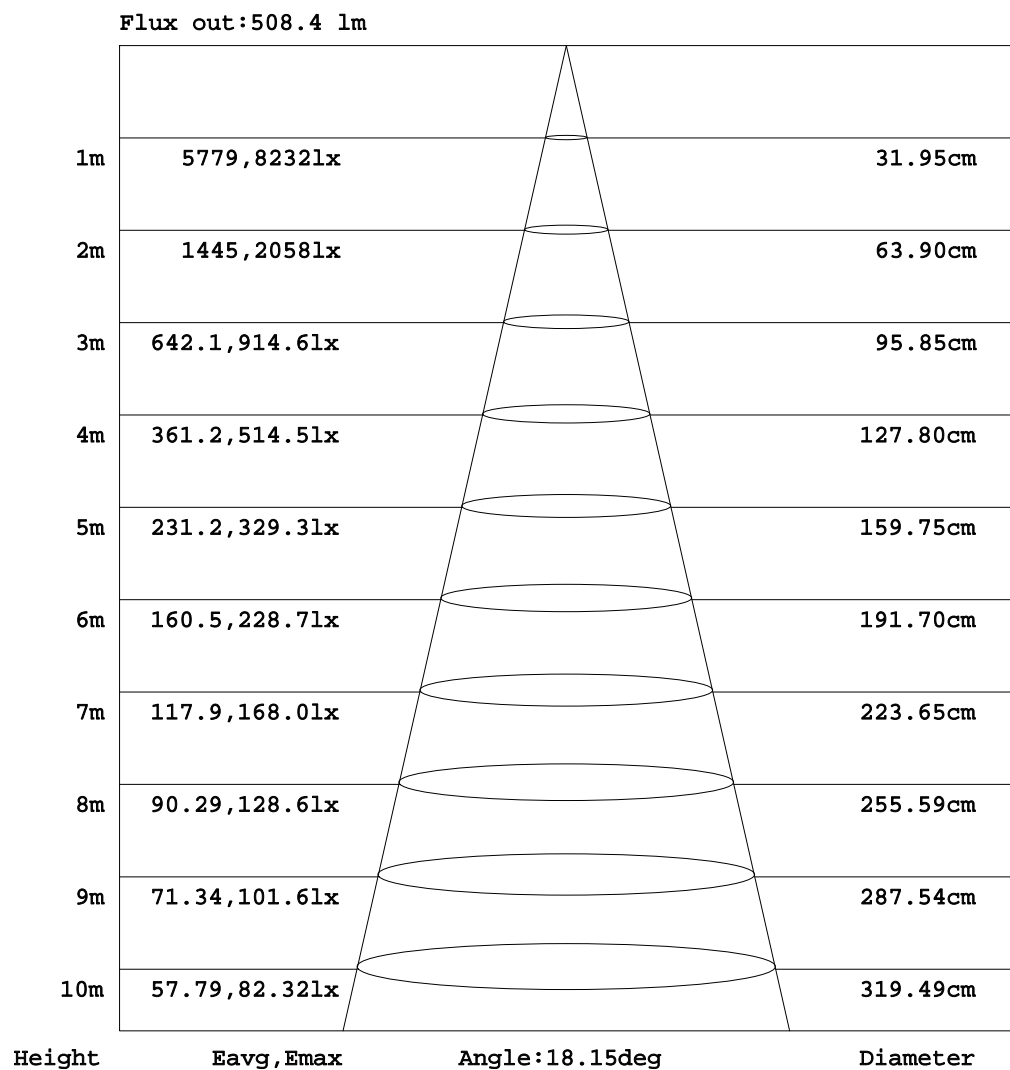


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:221.1V I:0.0753A P:15.56W PF:0.9342 Freq:49.99Hz Lamp Flux:1171.82x1 lm		
NAME: MINUX 57-13W-830-18D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi 57\text{mm} \times H92\text{mm}$	
MFR.: NEKO LIGHTING AG		



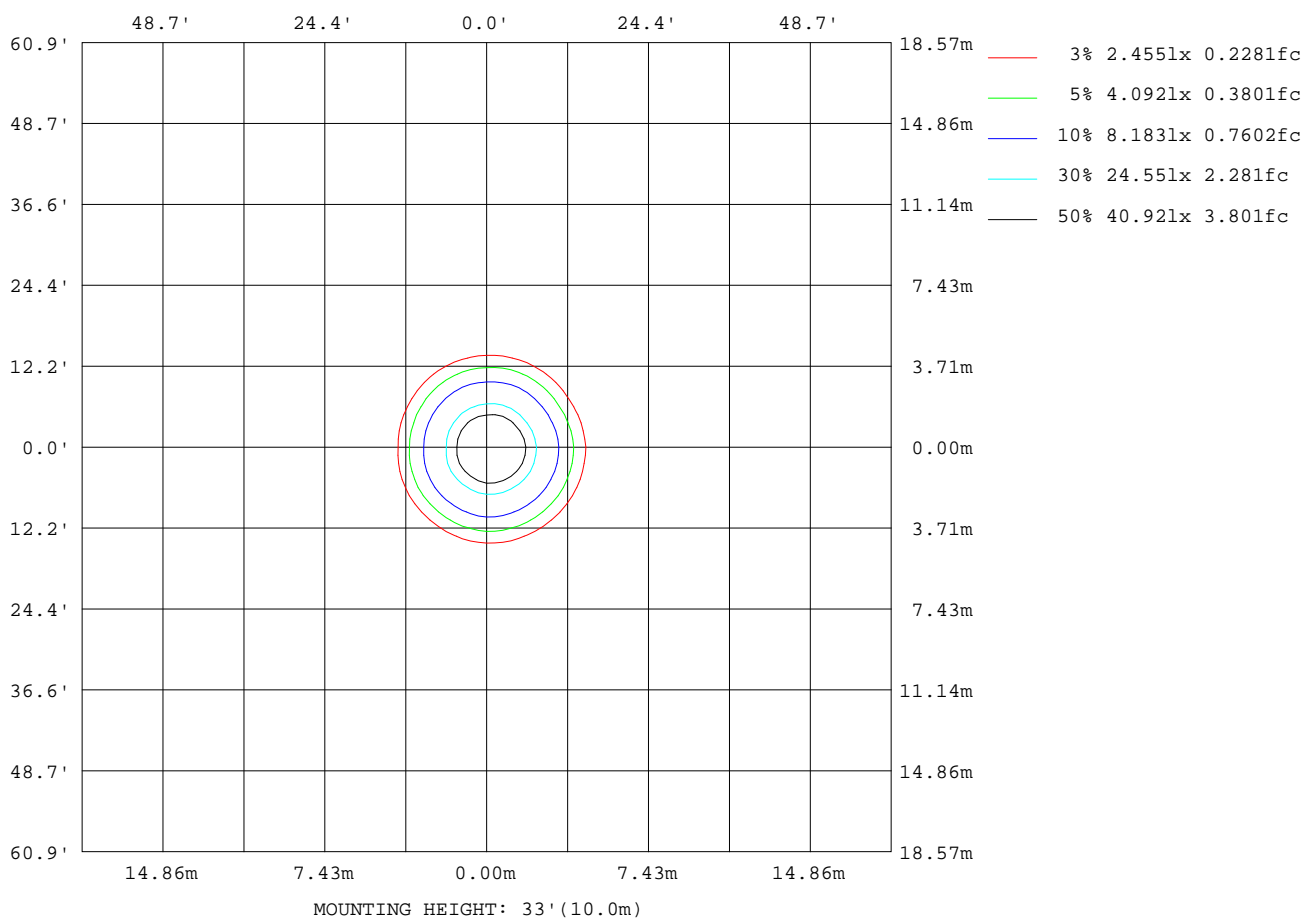
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:221.1V I:0.0753A P:15.56W PF:0.9342 Freq:49.99Hz Lamp Flux:1171.82x1 lm		
NAME: MINUX 57-13W-830-18D	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:221.1V I:0.0753A P:15.56W PF:0.9342 Freq:49.99Hz Lamp Flux:1171.82x1 lm		
NAME: MINUX 57-13W-830-18D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 57mm*H92mm	
MFR.: NEKO LIGHTING AG		

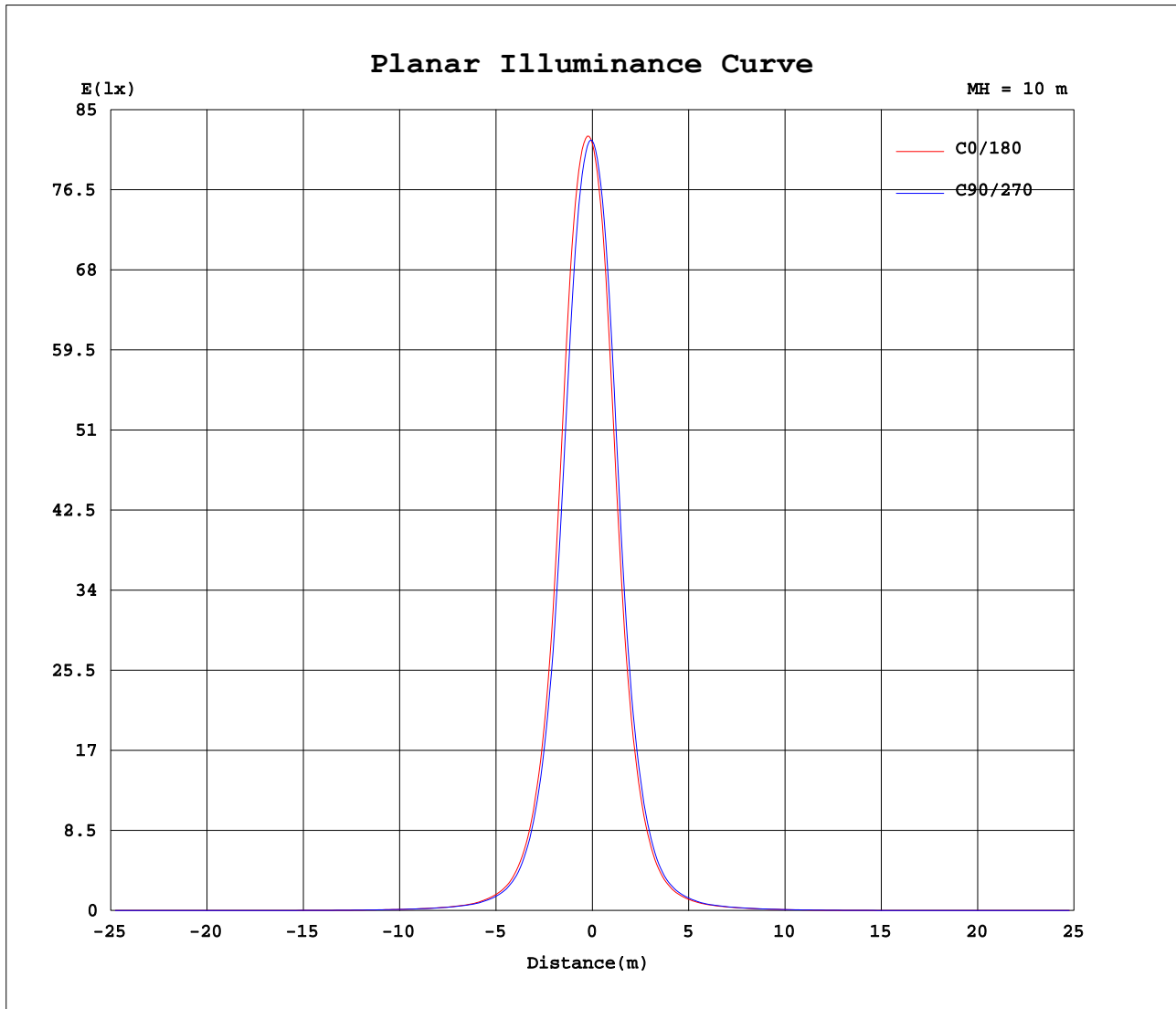
AvgL	cd/m2
L_0~180 (65) av	683
L_0~180 (75) av	41
L_0~180 (85) av	111
L_90~270 (65) av	720
L_90~270 (75) av	45
L_90~270 (85) av	123
L_45 (65) av	718
L_45 (75) av	46
L_45 (85) av	130

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
 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: 2022-11-03

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:

```