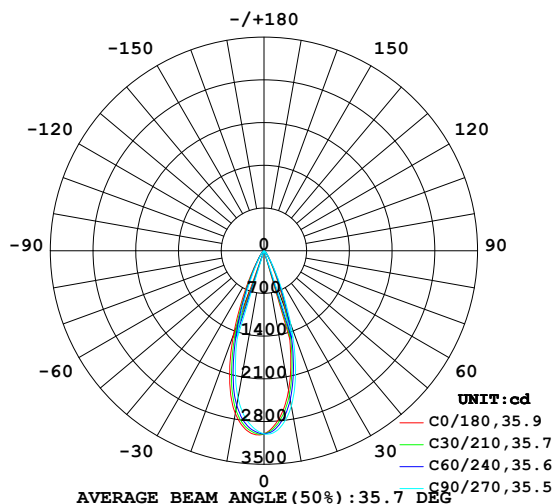


LUMINAIRE PHOTOMETRIC TEST REPORT

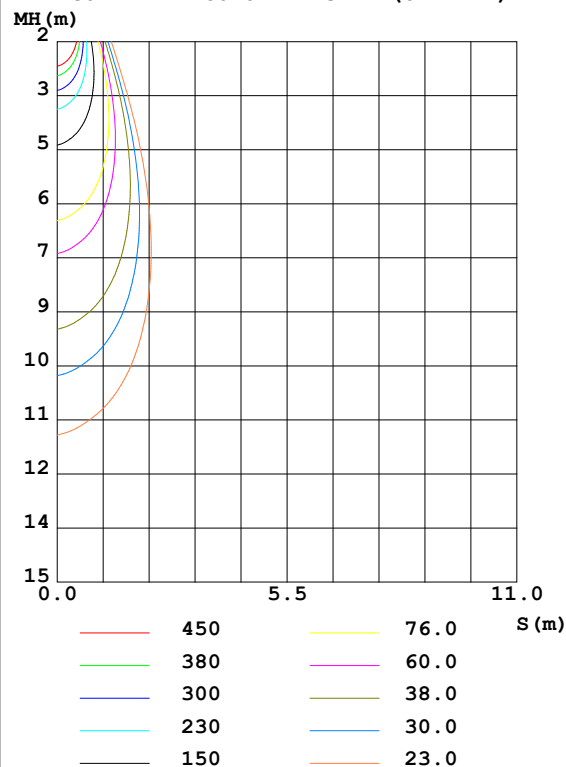
Test:U:221.0V I:0.0758A P:15.67W PF:0.9352 Freq:49.99Hz Lamp Flux:1215.41x1 lm		
NAME: MINUX 57-13W-830-36D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 57mm*H92mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 77.55 lm/W			
MODEL	CITIZEN-3000K	I _{max} (cd)	3027	S/MH (C0/180)	0.61
NOMINAL POWER (W)	15	LOR (%)	100.0	S/MH (C90/270)	0.55
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	1215.4	η UP, DN (C0-180)	0.0, 51.0
NOMINAL FLUX (lm)	1215.41	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	0.60

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	2324	2439	2583	2686	2707	2609	2449	2331	0- 10	263.1	263.1	21.6, 21.6
20	1012	1121	1283	1449	1456	1268	1093	994.3	10- 20	517.4	780.5	64.2, 64.2
30	225.6	262.1	302.5	354.0	343.5	287.3	235.1	213.0	20- 30	291.7	1072	88.2, 88.2
40	70.40	78.86	84.33	93.23	93.11	84.57	72.46	67.68	30- 40	93.55	1166	95.9, 95.9
50	21.47	24.44	27.56	29.75	29.55	27.06	23.14	20.95	40- 50	37.56	1203	99, 99
60	2.480	3.138	4.229	4.938	5.001	4.201	3.151	2.560	50- 60	10.89	1214	99.9, 99.9
70	0.0540	0.0380	0.0272	0.0384	0.0325	0.0380	0.0381	0.0357	60- 70	1.128	1215	100, 100
80	0.0379	0.0299	0.0272	0.0302	0.0325	0.0326	0.0327	0.0329	70- 80	0.0362	1215	100, 100
90	0.0270	0.0271	0.0272	0.0302	0.0325	0.0326	0.0327	0.0329	80- 90	0.0336	1215	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): 1188.9 lm

%lum = 97.8%

%lamp = 97.8%

Conical surface Flux(120deg): 1214.2 lm

%lum = 99.9%

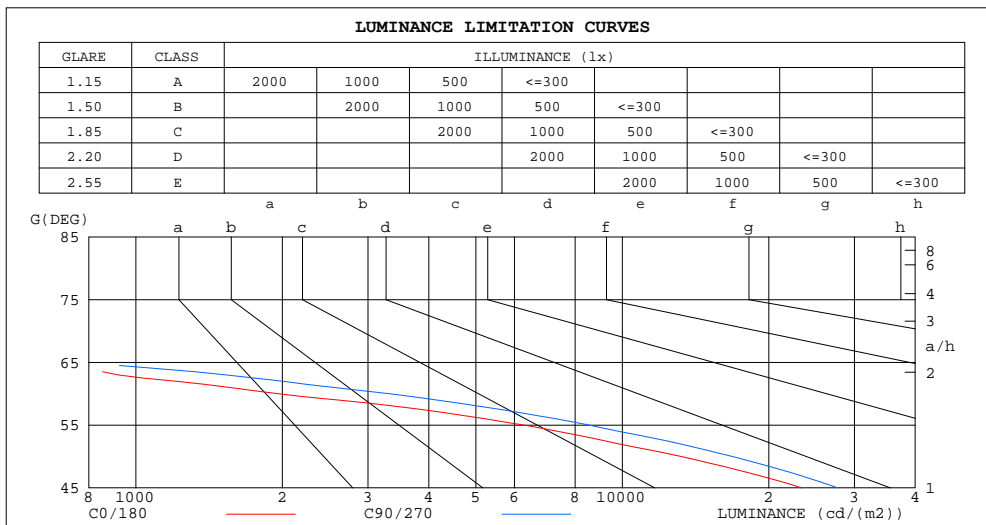
%lamp = 99.9%

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:0.0758A P:15.67W PF:0.9352 Freq:49.99Hz Lamp Flux:1215.41x1 lm		
NAME: MINUX 57-13W-830-35D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 57mm*H92mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	147	123
80	86	61
75	58	41
70	62	31
65	619	787
60	1958	3315
55	6270	8535
50	13191	16809
45	23363	27754

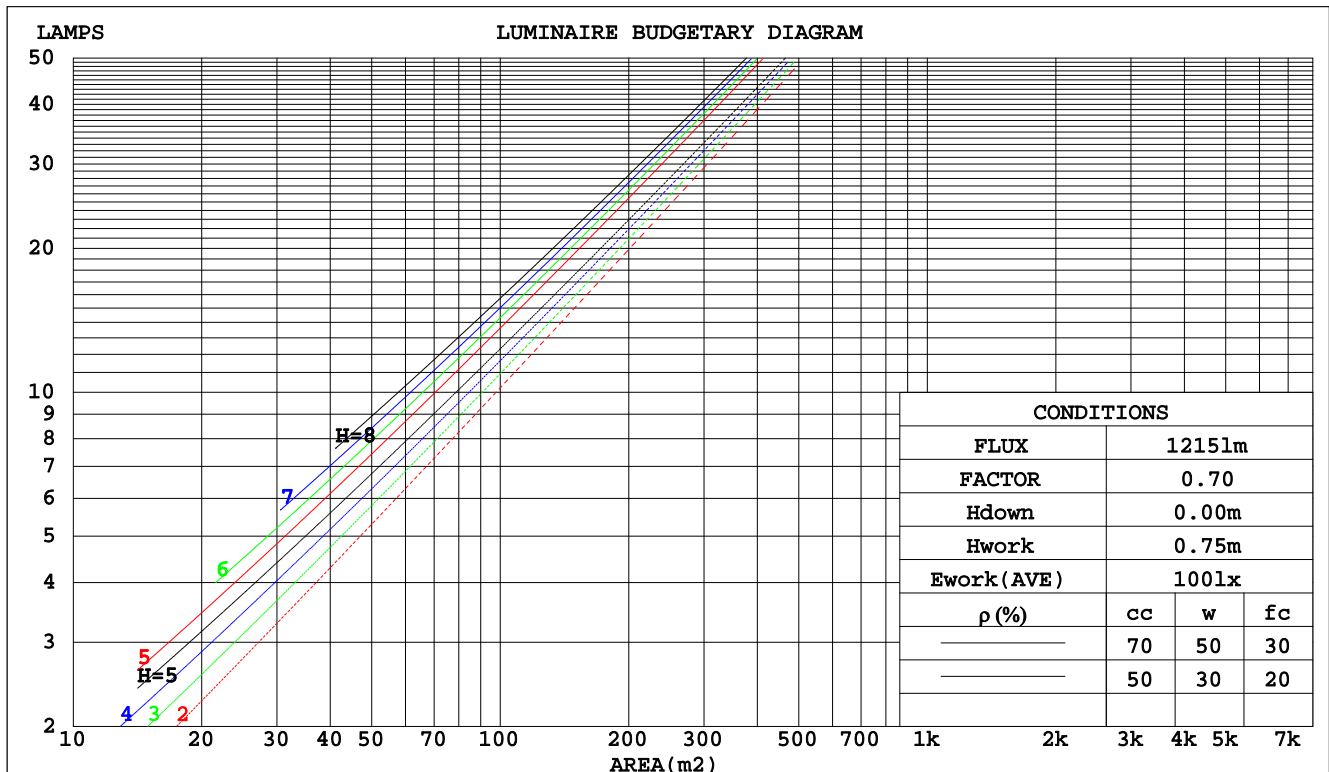
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:0.0758A P:15.67W PF:0.9352 Freq:49.99Hz Lamp Flux:1215.41x1 lm		
NAME: MINUX 57-13W-830-35D	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	.00
1.0	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97	.95
2.0	1.06	1.02	.00	1.04	1.01	.98	1.01	.98	.96	.98	.96	.94	.95	.94	.92	.91
3.0	1.00	.96	.93	.99	.95	.92	.96	.93	.91	.94	.91	.89	.92	.90	.88	.86
4.0	.95	.91	.87	.94	.90	.87	.92	.88	.86	.90	.87	.85	.88	.86	.84	.82
5.0	.91	.86	.82	.90	.85	.82	.88	.84	.81	.87	.83	.81	.85	.82	.80	.79
6.0	.87	.82	.78	.86	.81	.78	.85	.80	.77	.83	.80	.77	.82	.79	.76	.75
7.0	.83	.78	.75	.82	.78	.74	.81	.77	.74	.80	.76	.74	.79	.76	.73	.72
8.0	.79	.75	.71	.79	.74	.71	.78	.74	.71	.77	.73	.71	.76	.73	.70	.69
9.0	.76	.72	.68	.76	.71	.68	.75	.71	.68	.74	.70	.68	.73	.70	.68	.66
10.0	.73	.69	.66	.73	.69	.65	.72	.68	.65	.72	.68	.65	.71	.67	.65	.64



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:0.0758A P:15.67W PF:0.9352 Freq:49.99Hz Lamp Flux:1215.41x1 lm		
NAME: MINUX 57-13W-830-35D	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	.153	.087	.028	.147	.084	.027	.134	.077	.025	.123	.071	.023	.112	.065	.021	
2.0	.145	.079	.024	.139	.077	.024	.129	.072	.022	.119	.067	.021	.110	.062	.020	
3.0	.136	.073	.022	.132	.071	.021	.123	.067	.020	.115	.063	.019	.107	.059	.018	
4.0	.129	.067	.020	.125	.065	.019	.118	.062	.019	.111	.059	.018	.104	.057	.017	
5.0	.122	.062	.018	.119	.061	.018	.113	.059	.017	.107	.056	.017	.101	.054	.016	
6.0	.116	.058	.017	.114	.057	.017	.108	.055	.016	.103	.053	.016	.098	.052	.015	
7.0	.111	.055	.016	.109	.054	.015	.104	.052	.015	.099	.051	.015	.095	.049	.014	
8.0	.106	.052	.015	.104	.051	.014	.100	.050	.014	.096	.048	.014	.092	.047	.014	
9.0	.102	.049	.014	.100	.049	.014	.096	.047	.013	.092	.046	.013	.089	.045	.013	
10.0	.098	.047	.013	.096	.046	.013	.092	.045	.013	.089	.044	.013	.086	.043	.012	

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	.169	.158	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.116	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013	
3.0	.139	.113	.093	.119	.098	.081	.082	.068	.057	.047	.040	.033	.015	.013	.011	
4.0	.127	.098	.076	.109	.085	.066	.075	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.118	.086	.063	.101	.075	.055	.070	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.109	.077	.053	.094	.066	.046	.065	.046	.033	.038	.027	.019	.012	.009	.006	
7.0	.102	.069	.045	.088	.060	.039	.061	.042	.028	.035	.025	.017	.011	.008	.005	
8.0	.096	.062	.039	.083	.054	.034	.057	.038	.024	.033	.022	.014	.011	.007	.005	
9.0	.091	.057	.034	.078	.049	.029	.054	.035	.021	.032	.020	.012	.010	.007	.004	
10.0	.086	.052	.030	.074	.045	.026	.052	.032	.018	.030	.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:0.0758A P:15.67W PF:0.9352 Freq:49.99Hz Lamp Flux:1215.41x1 lm										
NAME: MINUX 57-13W-830-35D					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	14.6	15.4	14.8	15.5	15.7	15.4	16.2	15.6	16.3	16.5
3H	14.4	15.1	14.7	15.3	15.5	15.2	16.0	15.5	16.2	16.3
4H	14.3	15.0	14.6	15.2	15.4	15.2	15.8	15.4	16.1	16.3
6H	14.3	14.9	14.5	15.1	15.4	15.1	15.7	15.4	16.0	16.2
8H	14.2	14.8	14.5	15.1	15.3	15.0	15.7	15.3	15.9	16.2
12H	14.2	14.8	14.5	15.0	15.3	15.0	15.6	15.3	15.8	16.1
4H 2H	14.4	15.0	14.6	15.3	15.5	15.2	15.9	15.5	16.1	16.3
3H	14.2	14.8	14.5	15.0	15.3	15.0	15.6	15.3	15.9	16.1
4H	14.1	14.6	14.4	14.9	15.2	14.9	15.5	15.3	15.7	16.1
6H	14.0	14.5	14.4	14.8	15.1	14.8	15.3	15.2	15.6	16.0
8H	13.9	14.4	14.3	14.7	15.1	14.8	15.2	15.2	15.6	15.9
12H	13.9	14.3	14.3	14.7	15.1	14.7	15.1	15.1	15.5	15.9
8H 4H	13.9	14.4	14.3	14.7	15.1	14.8	15.2	15.2	15.6	15.9
6H	13.8	14.2	14.3	14.6	15.0	14.7	15.0	15.1	15.4	15.8
8H	13.8	14.1	14.2	14.5	15.0	14.6	14.9	15.0	15.3	15.8
12H	13.7	14.0	14.2	14.4	14.9	14.5	14.8	15.0	15.3	15.7
12H 4H	13.9	14.3	14.3	14.7	15.1	14.7	15.1	15.1	15.5	15.9
6H	13.8	14.1	14.2	14.5	15.0	14.6	14.9	15.0	15.3	15.8
8H	13.7	14.0	14.2	14.4	14.9	14.5	14.8	15.0	15.3	15.7
Variations with the observer position at spacings:										
S = 1.0H	+ 2.5 / -10.1					+ 2.8 / - 9.0				
1.5H	+ 3.5 / - 6.4					+ 4.0 / - 6.8				
2.0H	+ 5.5 / -15.2					+ 5.7 / -15.4				

CIE Pub.117, 1215 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 0.7$)

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:0.0758A P:15.67W PF:0.9352 Freq:49.99Hz Lamp Flux:1215.41x1 lm		
NAME: MINUX 57-13W-830-35D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 57mm*H92mm	
MFR.: NEKO LIGHTING AG		

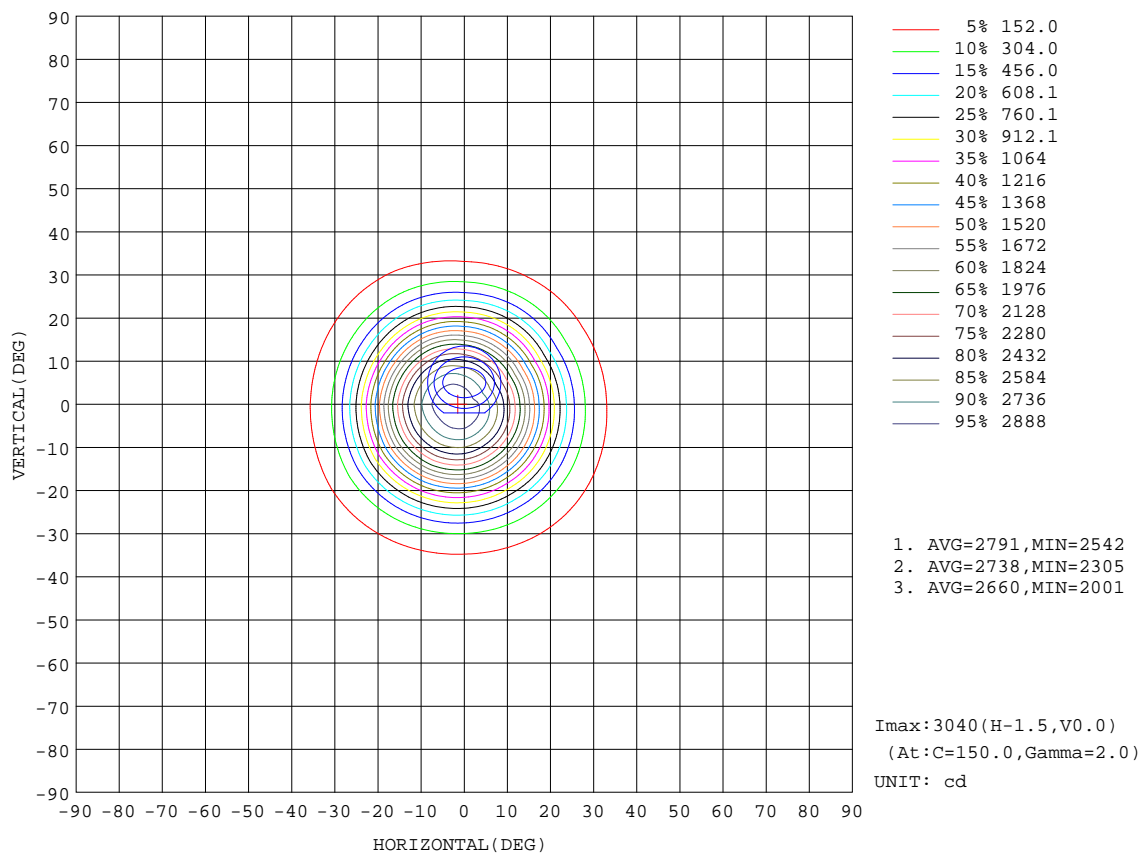
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	79	88	83	79	88	82	79	76
0.80	96	91	87	96	90	87	94	90	87	83
1.00	100	95	92	100	95	91	98	94	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	103	106	104	102	96
3.00	112	109	106	110	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:0.0758A P:15.67W PF:0.9352 Freq:49.99Hz Lamp Flux:1215.41x1 lm		
NAME: MINUX 57-13W-830-35D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 57mm*H92mm	
MFR.: NEKO LIGHTING AG		



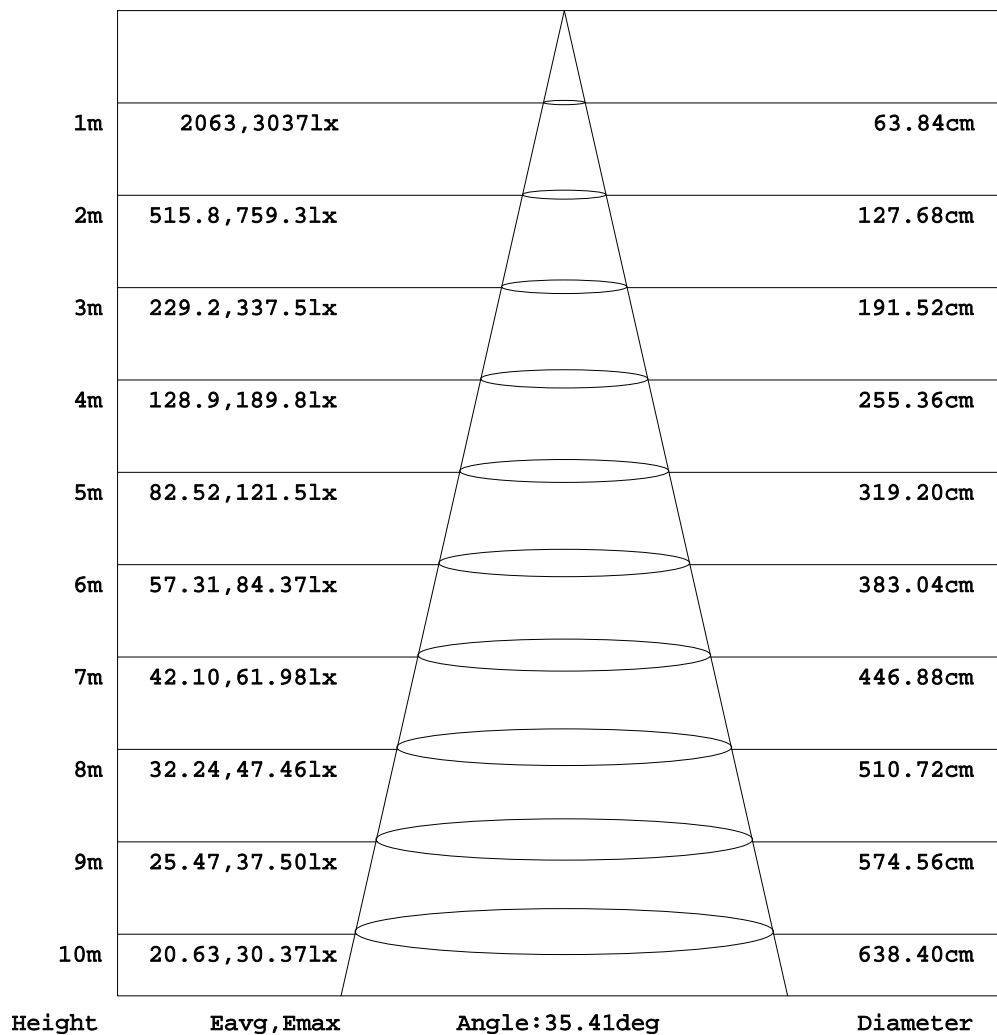
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:0.0758A P:15.67W PF:0.9352 Freq:49.99Hz Lamp Flux:1215.41x1 lm		
NAME: MINUX 57-13W-830-35D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi 57\text{mm} \times \text{H}92\text{mm}$	
MFR.: NEKO LIGHTING AG		

Flux out:684.3 lm



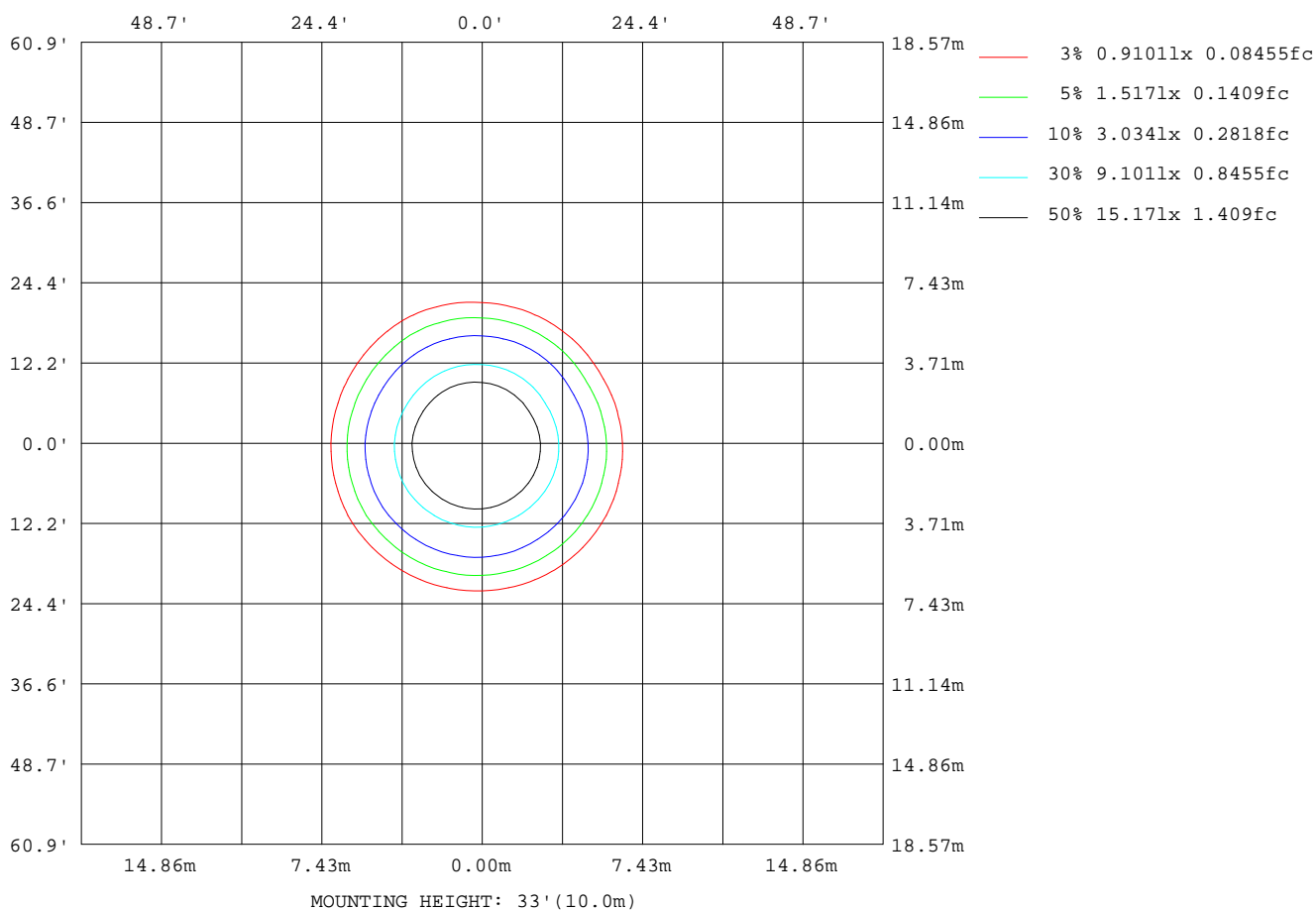
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.0758A P:15.67W PF:0.9352 Freq:49.99Hz Lamp Flux:1215.4lx 1m		
NAME: MINUX 57-13W-830-35D	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:0.0758A P:15.67W PF:0.9352 Freq:49.99Hz Lamp Flux:1215.41x1 lm		
NAME: MINUX 57-13W-830-35D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 57mm*H92mm	
MFR.: NEKO LIGHTING AG		

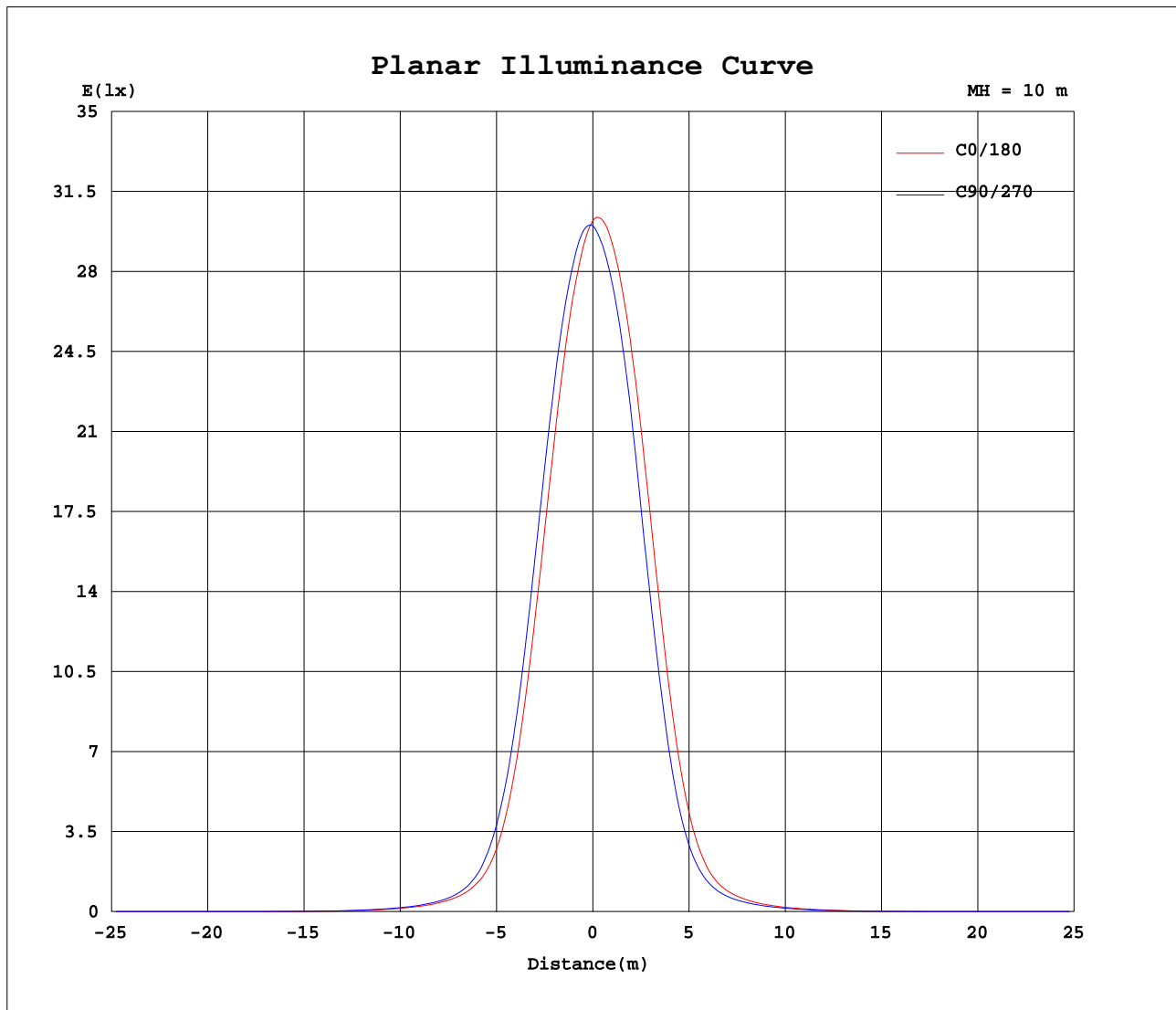
AvgL	cd/m2
L_0~180 (65) av	818
L_0~180 (75) av	53
L_0~180 (85) av	146
L_90~270 (65) av	859
L_90~270 (75) av	50
L_90~270 (85) av	135
L_45 (65) av	846
L_45 (75) av	51
L_45 (85) av	138

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:

```