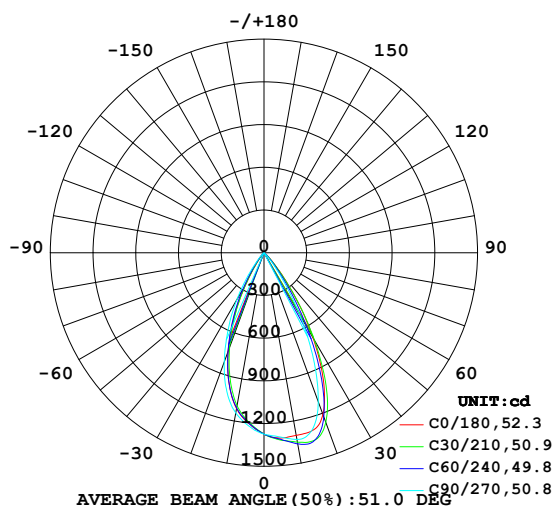


LUMINAIRE PHOTOMETRIC TEST REPORT

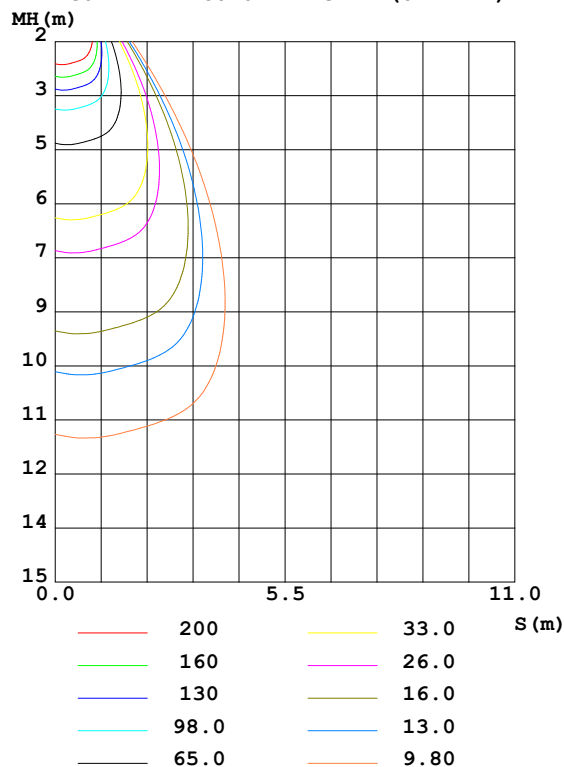
Test:U:221.0V I:0.0576A P:11.37W PF:0.8934 Freq:49.99Hz Lamp Flux:937.398x1 lm		
NAME: MINUX 44-9W-830-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 82.46 lm/W			
MODEL	CITIZEN-3000K	I _{max} (cd)	1378	S/MH (C0/180)	0.70
NOMINAL POWER (W)	11	LOR (%)	100.0	S/MH (C90/270)	0.76
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	937.40	η UP, DN (C0-180)	0.0, 56.3
NOMINAL FLUX (lm)	937.398	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 43.7
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	0.80

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	1302	1356	1331	1201	1111	1099	1143	1224	0- 10	119.0	119.0	12.7,12.7
20	1209	1248	1114	869.4	736.0	723.7	817.7	1010	10- 20	313.7	432.6	46.2,46.2
30	688.1	656.1	501.0	339.9	254.9	279.7	385.9	532.1	20- 30	325.0	757.6	80.8,80.8
40	169.8	142.1	83.00	47.31	32.98	42.53	71.89	121.2	30- 40	146.4	904.0	96.4,96.4
50	22.64	19.15	11.12	5.876	4.011	5.449	9.729	16.23	40- 50	28.58	932.6	99.5,99.5
60	3.381	2.544	0.9213	0.3313	0.1017	0.2113	0.6000	2.196	50- 60	4.423	937.0	100,100
70	0.0766	0.0217	0.0110	0.0192	0.0162	0.0191	0.0219	0.0247	60- 70	0.3654	937.4	100,100
80	0.0216	0.0163	0.0110	0.0165	0.0162	0.0190	0.0219	0.0164	70- 80	0.0203	937.4	100,100
90	0.0162	0.0135	0.0110	0.0110	0.0162	0.0190	0.0219	0.0164	80- 90	0.0179	937.4	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): 924.5 lm

%lum = 98.6%

%lamp = 98.6%

Conical surface Flux(120deg): 936.99 lm

%lum = 100.0%

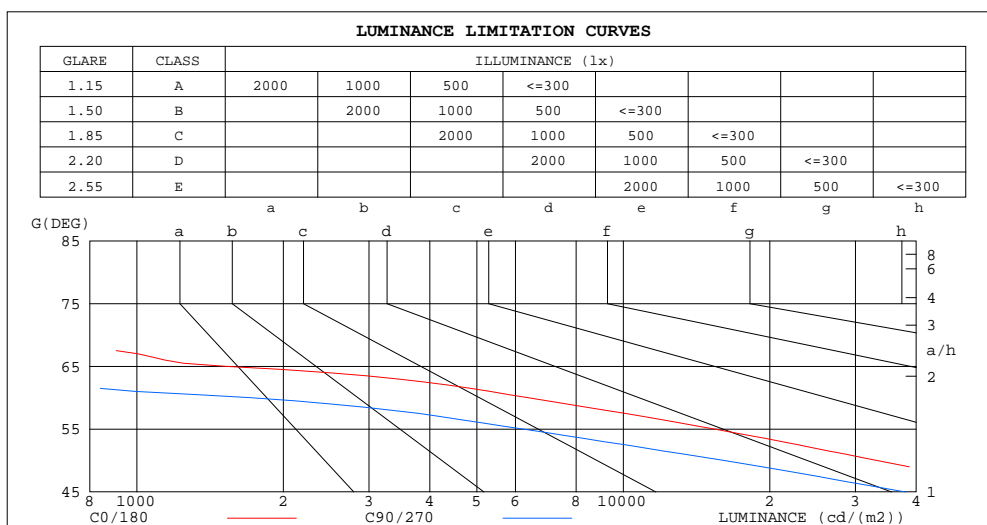
%lamp = 100.0%

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:0.0576A P:11.37W PF:0.8934 Freq:49.99Hz Lamp Flux:937.398x1 lm		
NAME: MINUX 44-9W-830-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi 51\text{mm} \times H92\text{mm}$	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	234	117
80	117	59
75	98	39
70	211	30
65	1518	252
60	6367	1713
55	15387	6219
50	33160	16077
45	82363	37966

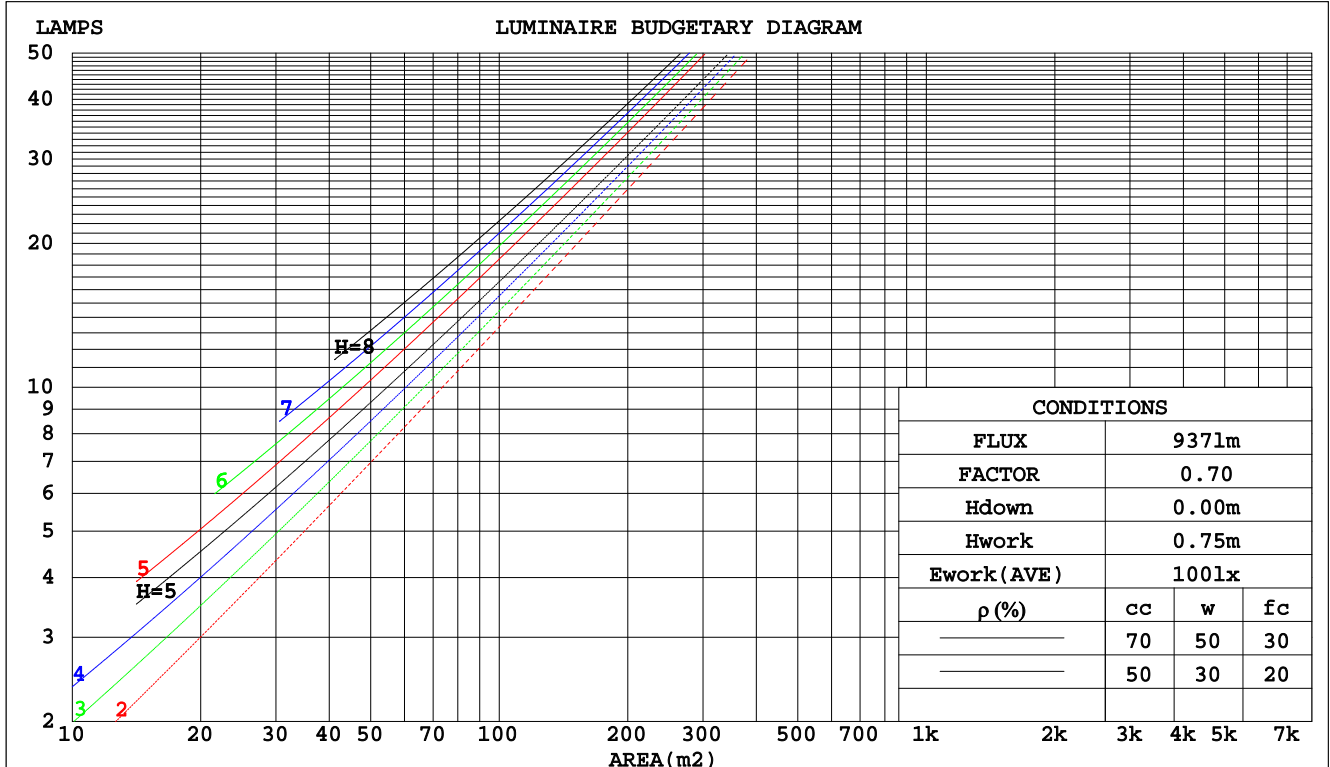
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:0.0576A P:11.37W PF:0.8934 Freq:49.99Hz Lamp Flux:937.398x1 lm		
NAME: MINUX 44-9W-830-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 51mm*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	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96	.94
2.0	1.04	1.01	.97	1.03	.99	.96	.99	.97	.94	.96	.94	.92	.94	.92	.90	.89
3.0	.98	.93	.90	.97	.92	.89	.94	.90	.87	.92	.89	.86	.89	.87	.85	.83
4.0	.92	.87	.83	.91	.86	.83	.89	.85	.82	.87	.83	.81	.85	.82	.80	.78
5.0	.87	.81	.77	.86	.81	.77	.84	.80	.76	.83	.79	.76	.81	.78	.75	.74
6.0	.82	.77	.73	.81	.76	.72	.80	.75	.72	.78	.74	.71	.77	.74	.71	.70
7.0	.78	.72	.68	.77	.72	.68	.76	.71	.68	.75	.70	.67	.74	.70	.67	.66
8.0	.74	.68	.64	.73	.68	.64	.72	.67	.64	.71	.67	.64	.70	.66	.63	.62
9.0	.70	.64	.61	.69	.64	.61	.69	.64	.60	.68	.63	.60	.67	.63	.60	.59
10.0	.66	.61	.57	.66	.61	.57	.65	.61	.57	.65	.60	.57	.64	.60	.57	.56



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:0.0576A P:11.37W PF:0.8934 Freq:49.99Hz Lamp Flux:937.398x1 lm		
NAME: MINUX 44-9W-830-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 51mm*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	.167	.095	.030	.160	.091	.029	.148	.085	.027	.136	.079	.025	.126	.073	.023		
2.0	.159	.087	.027	.153	.085	.026	.143	.079	.025	.133	.075	.023	.124	.070	.022		
3.0	.151	.080	.024	.146	.078	.024	.138	.075	.023	.129	.071	.022	.122	.067	.021		
4.0	.144	.075	.022	.140	.073	.022	.132	.070	.021	.125	.067	.020	.119	.064	.020		
5.0	.137	.070	.020	.134	.069	.020	.127	.066	.019	.121	.064	.019	.115	.062	.018		
6.0	.131	.066	.019	.128	.065	.019	.122	.063	.018	.117	.061	.018	.112	.059	.017		
7.0	.126	.062	.018	.123	.061	.017	.118	.060	.017	.113	.058	.017	.108	.056	.017		
8.0	.121	.059	.017	.118	.058	.016	.114	.057	.016	.109	.055	.016	.105	.054	.016		
9.0	.116	.056	.016	.114	.055	.016	.109	.054	.015	.106	.053	.015	.102	.052	.015		
10.0	.111	.053	.015	.109	.053	.015	.106	.052	.015	.102	.051	.014	.099	.050	.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	.125	.100	.093	.087	.057	.054	.050	.018	.017	.016	
2.0	.155	.133	.114	.132	.114	.099	.091	.079	.069	.052	.046	.040	.017	.015	.013	
3.0	.142	.113	.091	.121	.098	.079	.083	.068	.055	.048	.040	.033	.015	.013	.011	
4.0	.131	.099	.074	.112	.085	.064	.077	.059	.045	.045	.035	.027	.014	.011	.009	
5.0	.122	.087	.061	.105	.075	.053	.072	.053	.037	.042	.031	.022	.013	.010	.007	
6.0	.114	.077	.051	.098	.067	.044	.068	.047	.031	.039	.028	.019	.013	.009	.006	
7.0	.108	.070	.043	.093	.061	.038	.064	.042	.027	.037	.025	.016	.012	.008	.005	
8.0	.102	.064	.037	.088	.055	.032	.061	.039	.023	.035	.023	.014	.011	.007	.005	
9.0	.097	.058	.032	.084	.051	.028	.058	.036	.020	.034	.021	.012	.011	.007	.004	
10.0	.093	.054	.028	.080	.047	.025	.055	.033	.017	.032	.019	.010	.010	.006	.003	

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:0.0576A P:11.37W PF:0.8934 Freq:49.99Hz Lamp Flux:937.398x1 lm										
NAME: MINUX 44-9W-830-50D					TYPE:Downlight			SERIAL No.:		
SPEC.:3000K					DIM.: ϕ 51mm*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	25.7	26.6	25.9	26.7	26.9	23.4	24.3	23.6	24.4	24.6
3H	25.5	26.3	25.8	26.5	26.7	23.2	24.0	23.5	24.2	24.4
4H	25.4	26.2	25.7	26.4	26.6	23.1	23.9	23.4	24.1	24.3
6H	25.3	26.1	25.6	26.3	26.5	23.0	23.8	23.3	24.0	24.2
8H	25.3	26.0	25.6	26.2	26.5	23.0	23.7	23.3	23.9	24.2
12H	25.2	25.9	25.6	26.2	26.4	23.0	23.6	23.3	23.9	24.2
4H 2H	25.4	26.2	25.7	26.4	26.6	23.1	23.9	23.4	24.1	24.3
3H	25.2	25.9	25.6	26.2	26.4	23.0	23.6	23.3	23.9	24.2
4H	25.2	25.8	25.5	26.0	26.4	22.9	23.5	23.2	23.8	24.1
6H	25.1	25.6	25.4	25.9	26.3	22.8	23.3	23.1	23.6	24.0
8H	25.0	25.5	25.4	25.8	26.2	22.7	23.2	23.1	23.6	23.9
12H	25.0	25.4	25.4	25.8	26.2	22.7	23.1	23.1	23.5	23.9
8H 4H	25.0	25.5	25.4	25.8	26.2	22.7	23.2	23.1	23.6	23.9
6H	24.9	25.3	25.3	25.7	26.1	22.6	23.0	23.0	23.4	23.8
8H	24.8	25.2	25.3	25.6	26.1	22.6	22.9	23.0	23.3	23.8
12H	24.8	25.1	25.3	25.5	26.0	22.5	22.8	23.0	23.2	23.7
12H 4H	25.0	25.4	25.4	25.8	26.2	22.7	23.1	23.1	23.5	23.9
6H	24.8	25.2	25.3	25.6	26.1	22.6	22.9	23.0	23.3	23.8
8H	24.8	25.1	25.3	25.5	26.0	22.5	22.8	23.0	23.2	23.7
Variations with the observer position at spacings:										
S = 1.0H	+ 3.8 / -15.8					+ 2.9 / -18.1				
1.5H	+ 6.2 / -12.4					+ 5.1 / -11.3				
2.0H	+ 7.2 / -15.0					+ 6.2 / -17.6				

CIE Pub.117, 937.4 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = -0.2$)

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:0.0576A P:11.37W PF:0.8934 Freq:49.99Hz Lamp Flux:937.398x1 lm		
NAME: MINUX 44-9W-830-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

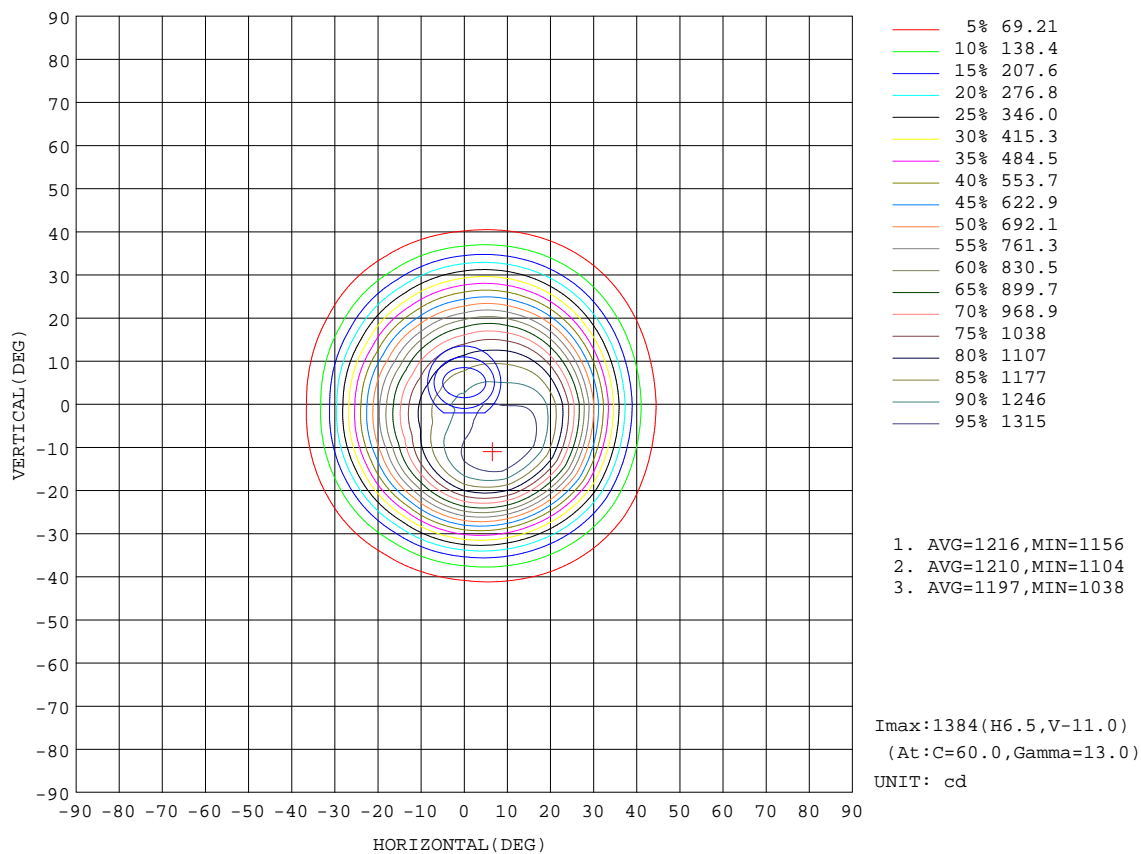
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	80	89	83	80	88	83	80	76
0.80	97	91	88	96	91	87	95	90	87	84
1.00	101	95	92	100	95	92	98	95	91	88
1.25	104	100	96	103	99	96	102	98	95	91
1.50	107	103	99	106	102	99	104	100	98	94
2.00	109	105	103	108	104	102	105	102	100	95
2.50	111	107	105	109	106	104	106	104	102	96
3.00	112	109	107	111	108	105	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	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:0.0576A P:11.37W PF:0.8934 Freq:49.99Hz Lamp Flux:937.398x1 lm		
NAME: MINUX 44-9W-830-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

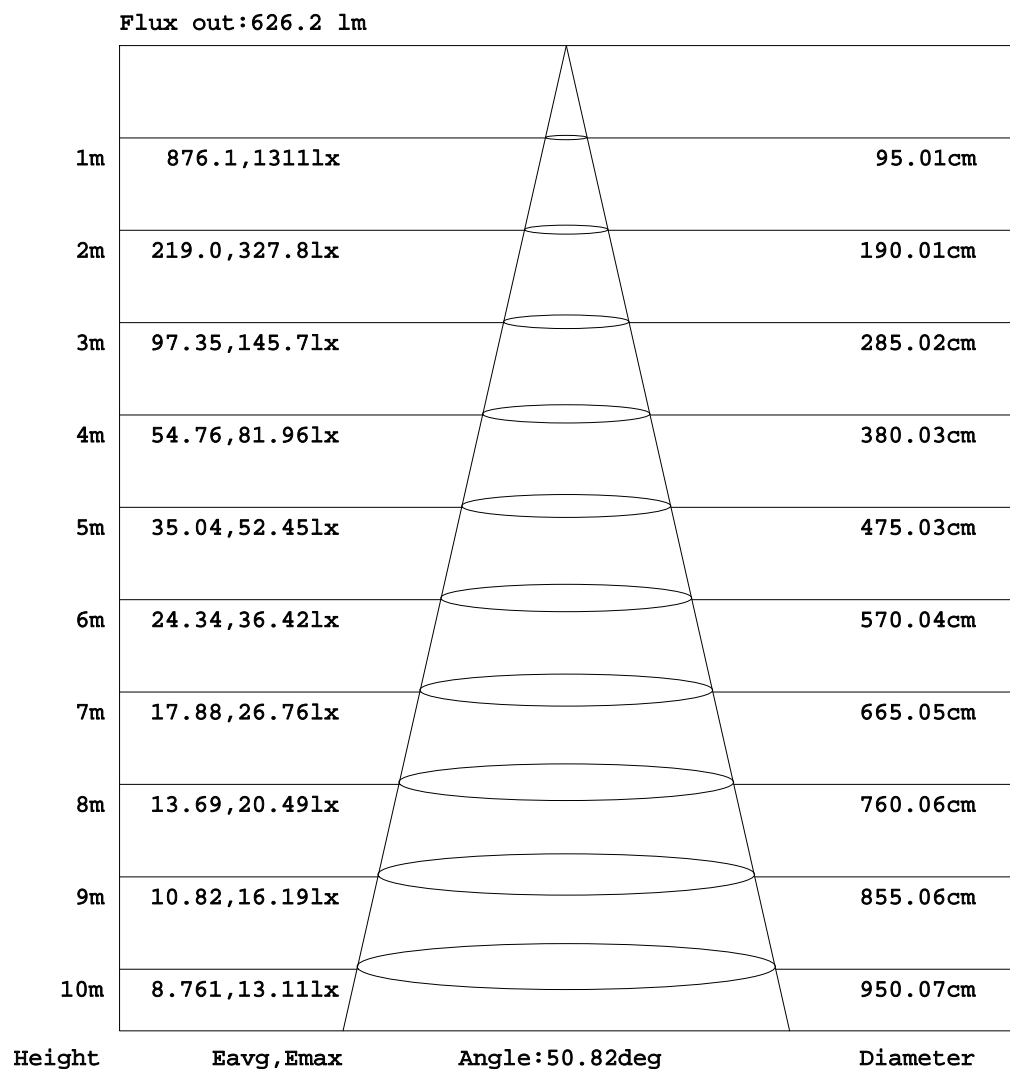


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2022-11-03

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:0.0576A P:11.37W PF:0.8934 Freq:49.99Hz Lamp Flux:937.398x1 lm		
NAME: MINUX 44-9W-830-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		



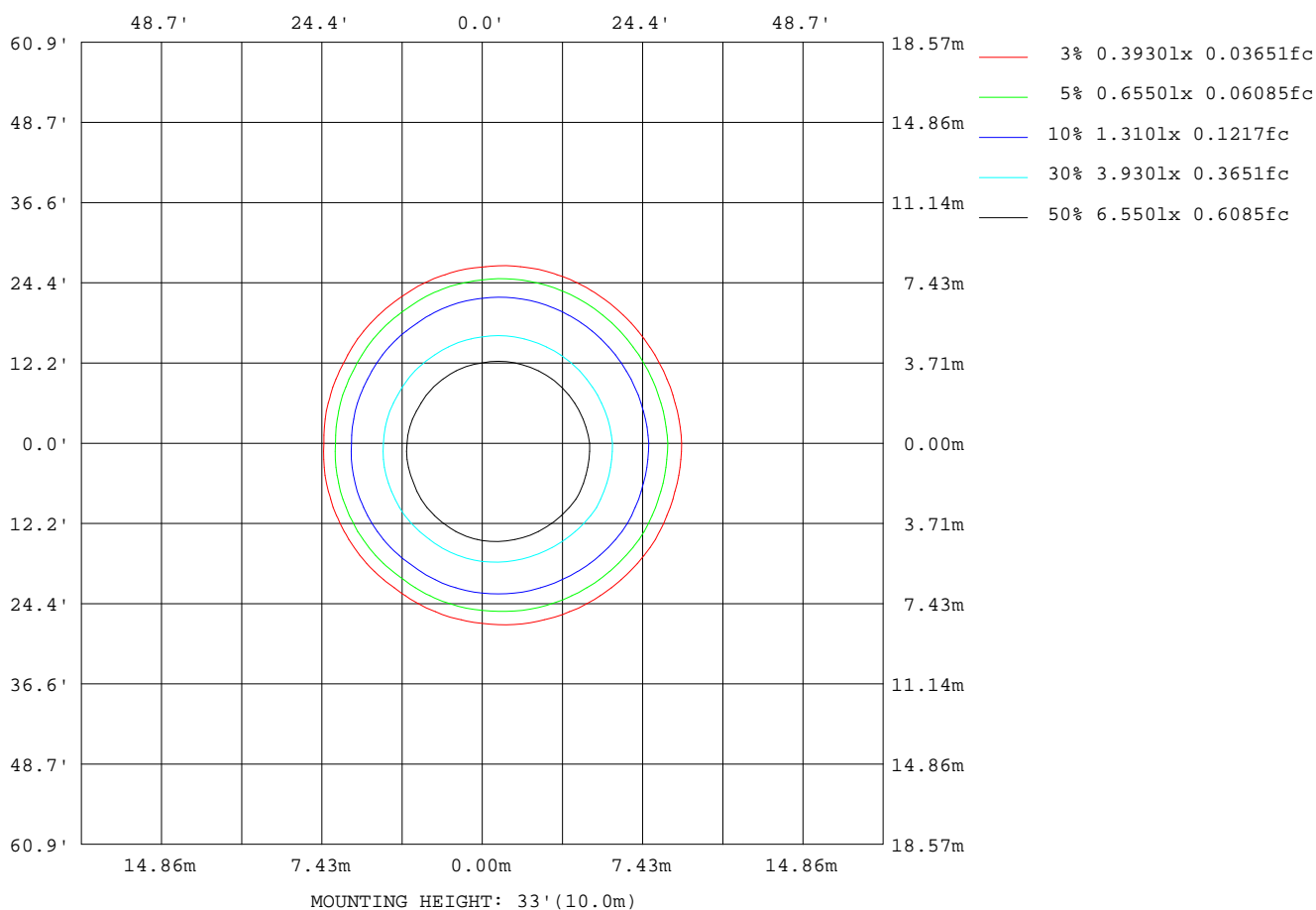
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:221.0V I:0.0576A P:11.37W PF:0.8934 Freq:49.99Hz Lamp Flux:937.398x1 lm		
NAME: MINUX 44-9W-830-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 51mm*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:0.0576A P:11.37W PF:0.8934 Freq:49.99Hz Lamp Flux:937.398x1 lm		
NAME: MINUX 44-9W-830-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

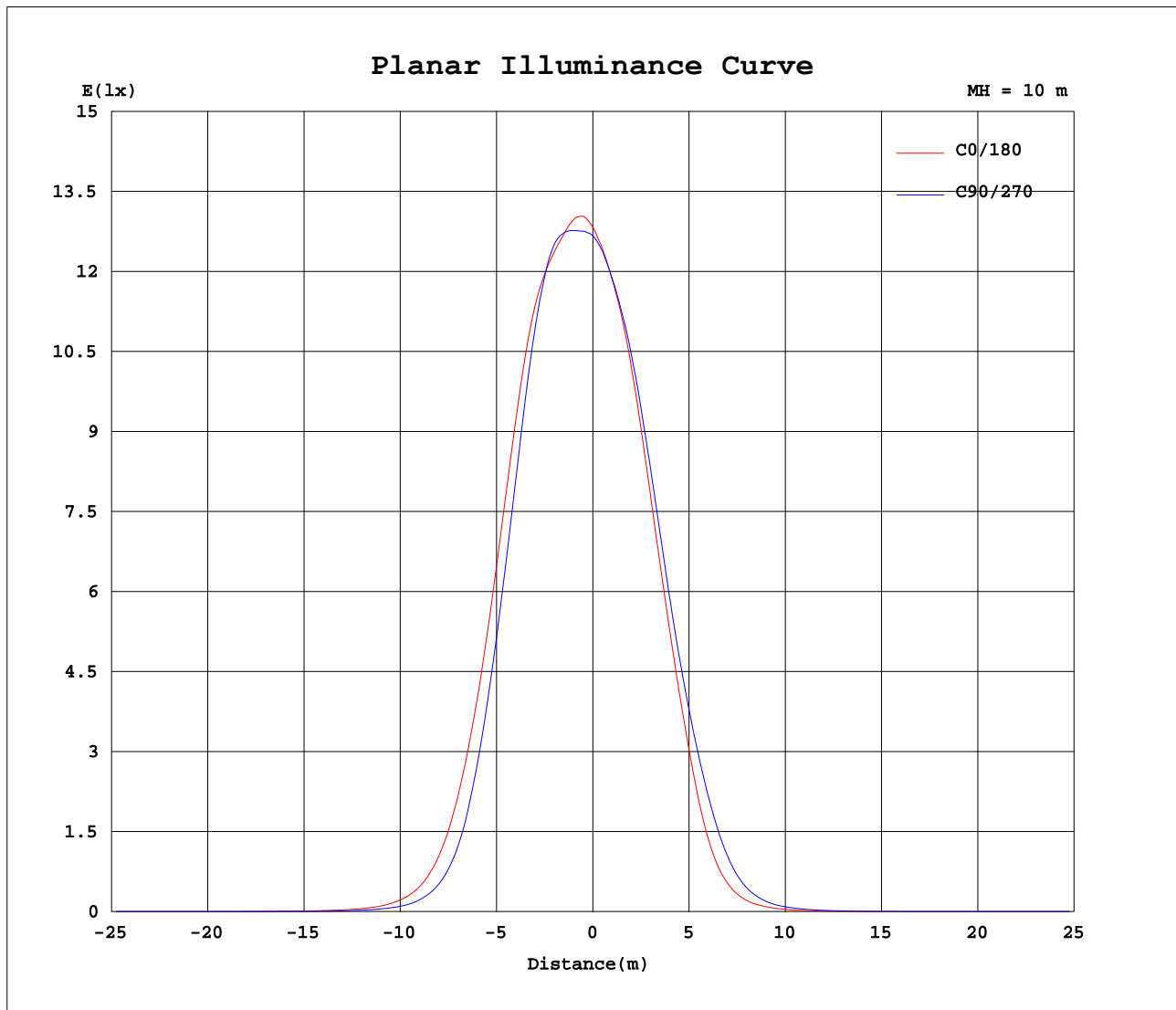
AvgL	cd/m2
L_0~180 (65) av	771
L_0~180 (75) av	78
L_0~180 (85) av	203
L_90~270 (65) av	188
L_90~270 (75) av	59
L_90~270 (85) av	176
L_45 (65) av	458
L_45 (75) av	66
L_45 (85) av	165

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:

```