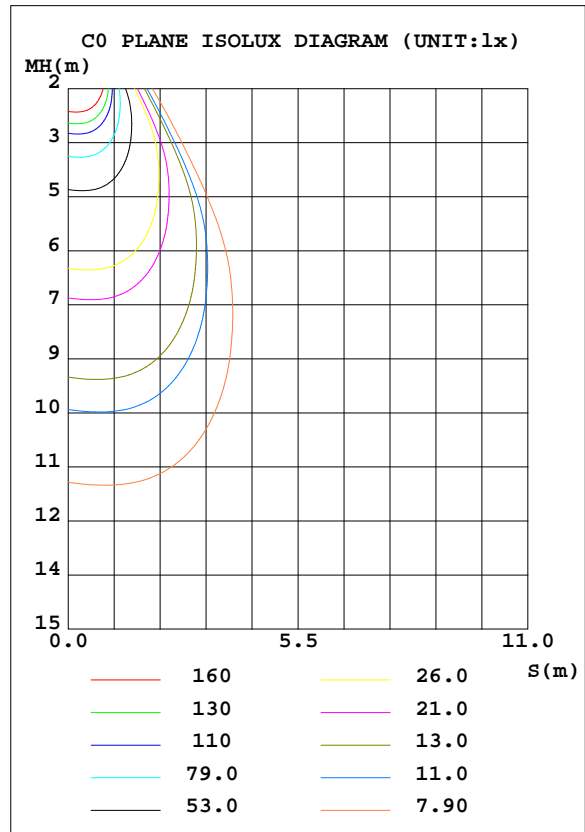
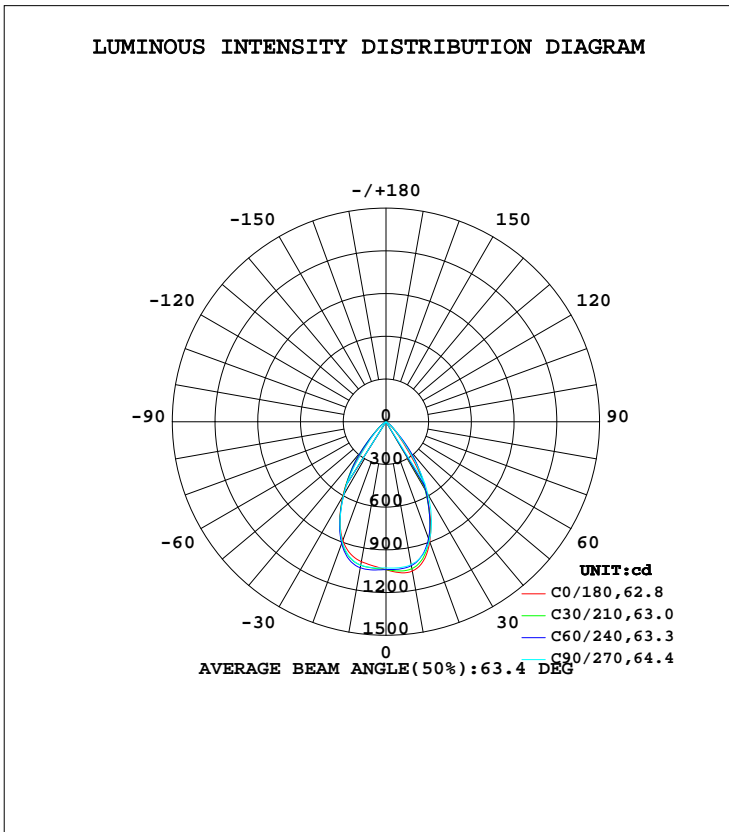


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:37.20V I:0.3500A P:13.02W PF:1.000 Freq:0Hz Lamp Flux:1088x1 lm		
NAME: TS100-13W-830	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 83.56 lm/W			
MODEL	CITIZEN-3000K	I _{max} (cd)	1070	S/MH(C0/180)	0.96
NOMINAL POWER(W)	13	LOR(%)	100.0	S/MH(C90/270)	0.95
RATED VOLTAGE(V)	38	TOTAL FLUX(lm)	1088.0	η UP, DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	1088	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	37.2	η down(%)	100.0	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-05

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:56%
 Test Distance:5.850m [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	1065	1039	1019	1017	997.3	1032	1022	989.8	0- 10	98.19	98.19	9.03,9.03
20	898.6	879.5	890.4	896.1	885.9	901.0	898.2	851.0	10- 20	273.4	371.6	34.2,34.2
30	558.1	553.3	591.0	598.3	609.0	592.9	594.8	550.3	20- 30	339.7	711.3	65.4,65.4
40	175.1	279.6	203.9	312.0	224.5	303.6	206.9	283.5	30- 40	253.2	964.5	88.6,88.6
50	39.43	58.65	52.37	72.51	60.29	68.69	53.44	61.44	40- 50	100.4	1065	97.9,97.9
60	3.362	4.990	3.889	6.198	4.849	5.801	3.608	4.689	50- 60	20.58	1085	99.8,99.8
70	0.7223	1.011	0.7553	1.151	0.8539	0.8885	0.6332	0.8338	60- 70	1.918	1087	99.9,99.9
80	0.2408	0.2533	0.2102	0.3319	0.2860	0.2627	0.1419	0.2255	70- 80	0.5456	1088	100,100
90	0.0568	0.0525	0.0568	0.0547	0.0350	0.0284	0.0306	0.0306	80- 90	0.1226	1088	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): 1029.8 lm

%lum = 94.6%

%lamp = 94.6%

Conical surface Flux(120deg): 1085.4 lm

%lum = 99.8%

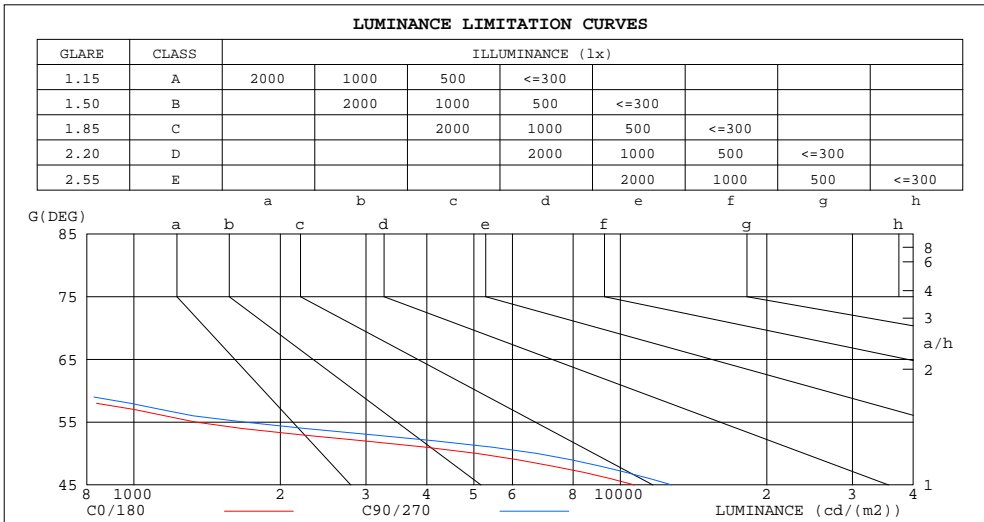
%lamp = 99.8%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2018-11-05

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:37.20V I:0.3500A P:13.02W PF:1.000 Freq:0Hz Lamp Flux:1088x1 lm		
NAME: TS100-13W-830	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	120	87
80	115	100
75	136	129
70	175	183
65	237	279
60	556	643
55	1338	1684
50	5070	6733
45	10692	12766

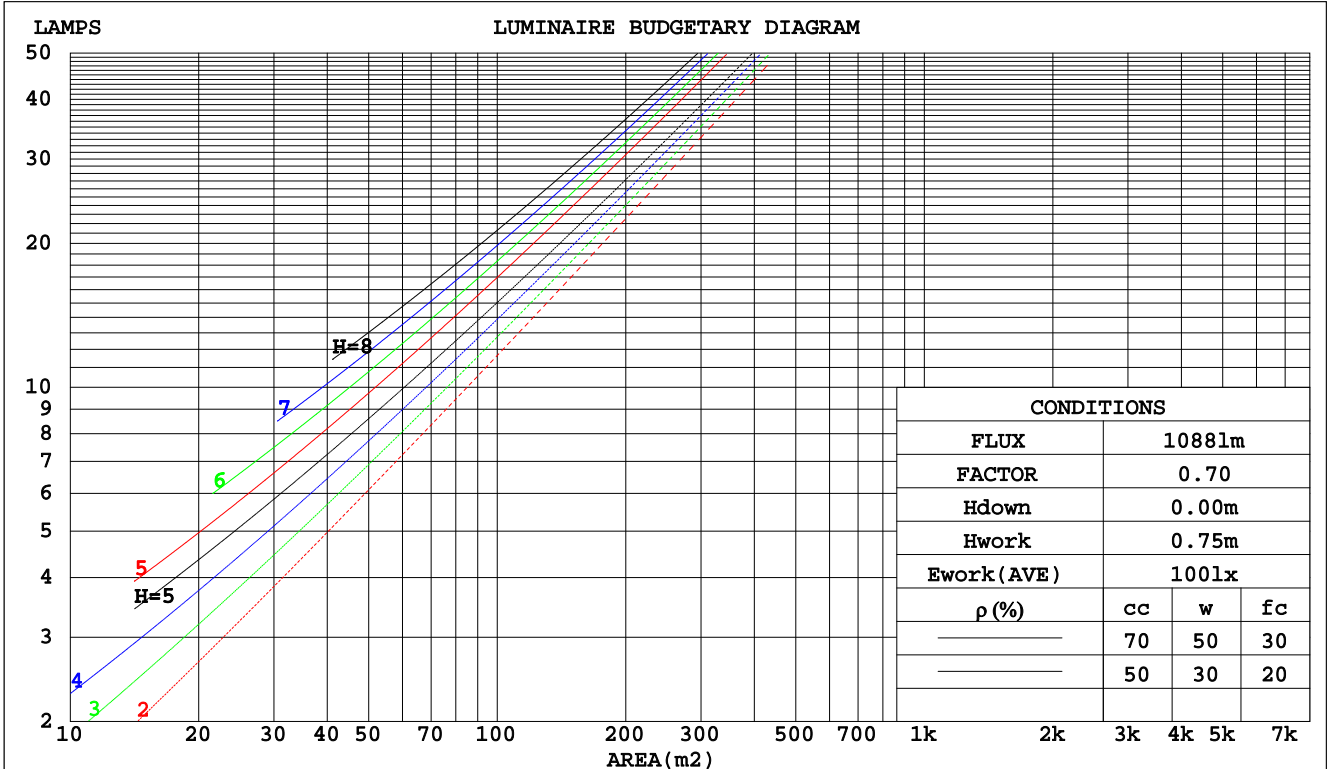
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-05

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:56%
 Test Distance:5.850m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:37.20V I:0.3500A P:13.02W PF:1.000 Freq:0Hz Lamp Flux:1088x1 lm		
NAME: TS100-13W-830	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																0
pfc																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	1.10	1.08	1.06	1.08	1.06	1.04	1.04	1.02	1.01	1.01	.99	.98	.97	.96	.95	.93
2.0	1.02	.98	.95	1.01	.97	.94	.97	.94	.92	.94	.92	.90	.92	.90	.88	.86
3.0	.95	.90	.86	.94	.89	.85	.91	.87	.84	.89	.85	.82	.86	.83	.81	.79
4.0	.88	.83	.78	.87	.82	.78	.85	.80	.77	.83	.79	.76	.81	.78	.75	.73
5.0	.82	.76	.72	.81	.76	.71	.80	.75	.71	.78	.74	.70	.76	.73	.70	.68
6.0	.77	.71	.66	.76	.70	.66	.75	.69	.65	.73	.69	.65	.72	.68	.65	.63
7.0	.72	.66	.61	.71	.65	.61	.70	.65	.61	.69	.64	.60	.68	.63	.60	.59
8.0	.67	.61	.57	.67	.61	.57	.66	.60	.57	.65	.60	.56	.64	.59	.56	.55
9.0	.63	.57	.53	.63	.57	.53	.62	.57	.53	.61	.56	.53	.60	.56	.52	.51
10.0	.60	.54	.50	.59	.54	.50	.58	.53	.49	.58	.53	.49	.57	.52	.49	.48



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Myles
 Test Date: 2018-11-05

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity: 56%
 Test Distance: 5.850m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:37.20V I:0.3500A P:13.02W PF:1.000 Freq:0Hz Lamp Flux:1088x1 lm		
NAME: TS100-13W-830	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		

ρcc	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	.184	.104	.033	.177	.101	.032	.164	.094	.030	.153	.088	.028	.142	.082	.027	
2.0	.177	.097	.030	.172	.095	.029	.161	.089	.028	.151	.085	.027	.142	.080	.025	
3.0	.170	.090	.027	.165	.088	.027	.156	.084	.026	.147	.081	.025	.139	.077	.024	
4.0	.162	.084	.025	.158	.083	.024	.150	.080	.024	.143	.077	.023	.136	.074	.022	
5.0	.155	.079	.023	.151	.078	.023	.144	.075	.022	.138	.073	.022	.132	.070	.021	
6.0	.148	.074	.021	.145	.073	.021	.139	.071	.021	.133	.069	.020	.128	.067	.020	
7.0	.141	.070	.020	.139	.069	.020	.133	.067	.019	.128	.066	.019	.123	.064	.019	
8.0	.135	.066	.019	.133	.065	.018	.128	.064	.018	.123	.063	.018	.119	.061	.018	
9.0	.130	.063	.018	.127	.062	.017	.123	.061	.017	.119	.060	.017	.115	.058	.017	
10.0	.124	.060	.017	.122	.059	.016	.118	.058	.016	.115	.057	.016	.111	.056	.016	

ρcc	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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.172	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.134	.114	.097	.092	.079	.067	.053	.046	.040	.017	.015	.013	
3.0	.145	.114	.088	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.071	.116	.086	.062	.080	.060	.044	.046	.035	.026	.015	.011	.008	
5.0	.127	.088	.058	.109	.076	.051	.075	.053	.036	.044	.031	.021	.014	.010	.007	
6.0	.120	.078	.049	.103	.068	.042	.071	.048	.030	.041	.028	.018	.013	.009	.006	
7.0	.114	.071	.041	.098	.062	.036	.068	.043	.025	.039	.025	.015	.013	.008	.005	
8.0	.108	.065	.035	.093	.056	.031	.064	.040	.022	.037	.023	.013	.012	.008	.004	
9.0	.103	.060	.030	.089	.052	.027	.062	.036	.019	.036	.022	.011	.012	.007	.004	
10.0	.099	.055	.027	.085	.048	.023	.059	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-05

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:56%
 Test Distance:5.850m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:37.20V I:0.3500A P:13.02W PF:1.000 Freq:0Hz Lamp Flux:1088x1 lm		
NAME: TS100-13W-830	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
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	16.8	17.8	17.0	18.0	18.2	17.2	18.2	17.5	18.4	18.6
3H	16.6	17.5	16.9	17.8	18.0	17.0	18.0	17.3	18.2	18.4
4H	16.5	17.4	16.8	17.6	17.9	17.0	17.8	17.2	18.0	18.3
6H	16.4	17.3	16.7	17.5	17.8	16.9	17.7	17.2	17.9	18.2
8H	16.4	17.2	16.7	17.4	17.7	16.8	17.6	17.1	17.9	18.1
12H	16.4	17.1	16.7	17.4	17.7	16.8	17.5	17.1	17.8	18.1
4H 2H	16.6	17.4	16.8	17.6	17.9	17.0	17.8	17.3	18.1	18.3
3H	16.4	17.1	16.7	17.4	17.7	16.8	17.5	17.1	17.8	18.1
4H	16.3	17.0	16.6	17.3	17.6	16.7	17.4	17.0	17.7	18.0
6H	16.2	16.8	16.6	17.1	17.5	16.6	17.2	17.0	17.5	17.9
8H	16.1	16.7	16.5	17.0	17.4	16.6	17.1	16.9	17.5	17.8
12H	16.1	16.6	16.5	17.0	17.4	16.5	17.0	16.9	17.4	17.8
8H 4H	16.1	16.7	16.5	17.0	17.4	16.6	17.1	16.9	17.5	17.8
6H	16.0	16.5	16.5	16.9	17.3	16.5	16.9	16.9	17.3	17.7
8H	16.0	16.4	16.4	16.8	17.2	16.4	16.8	16.8	17.2	17.7
12H	15.9	16.3	16.4	16.7	17.2	16.3	16.7	16.8	17.1	17.6
12H 4H	16.1	16.6	16.5	17.0	17.4	16.5	17.0	16.9	17.4	17.8
6H	16.0	16.4	16.4	16.8	17.2	16.4	16.8	16.8	17.2	17.7
8H	15.9	16.3	16.4	16.7	17.2	16.3	16.7	16.8	17.1	17.6
Variations with the observer position at spacings:										
S = 1.0H	+ 2.6 / -15.4					+ 2.5 / -15.7				
1.5H	+ 4.0 / - 9.0					+ 4.2 / - 8.7				
2.0H	+ 6.0 / -13.9					+ 6.2 / -15.1				

CIE Pub.117, 1088 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.3)

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-05

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:56%
 Test Distance:5.850m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:37.20V I:0.3500A P:13.02W PF:1.000 Freq:0Hz Lamp Flux:1088x1 lm		
NAME: TS100-13W-830	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		

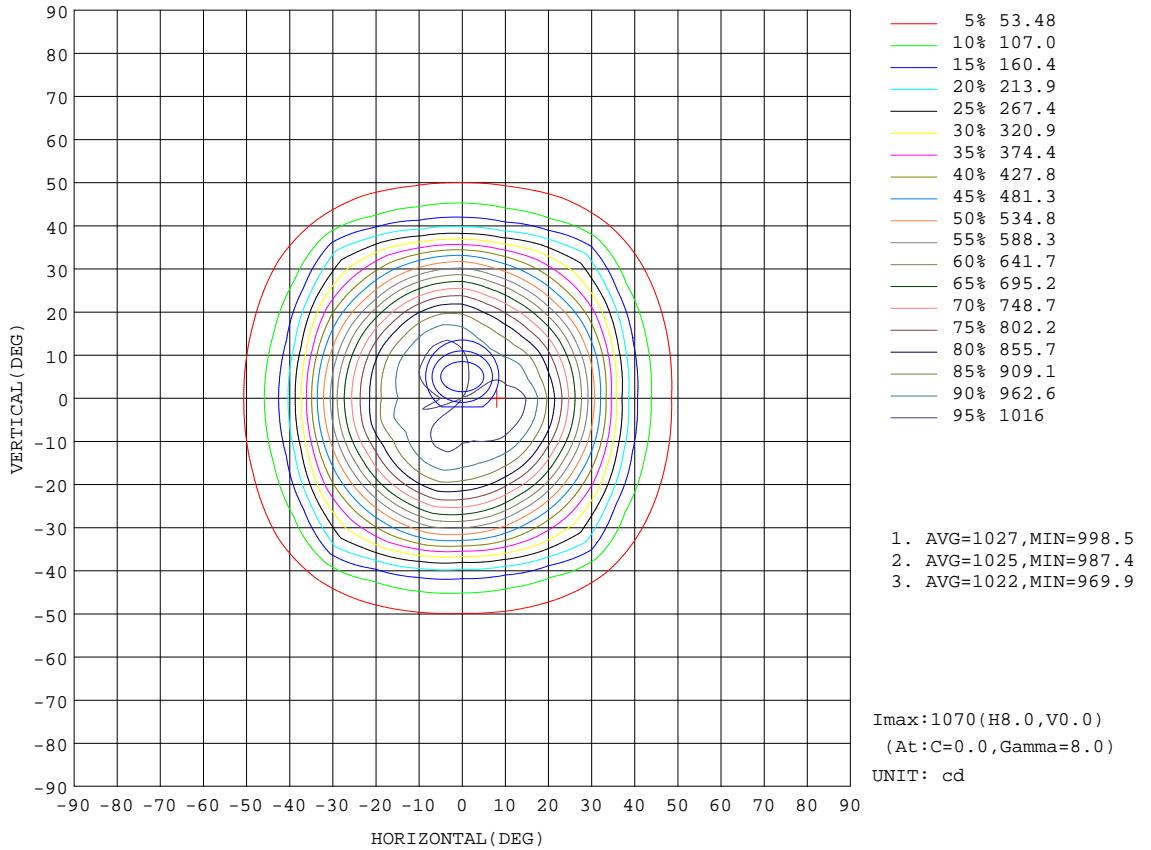
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	84	77	73	84	77	73	83	77	73	69
0.80	92	86	82	92	86	82	90	85	81	77
1.00	98	92	88	97	91	87	95	91	87	83
1.25	102	96	93	101	96	92	99	95	92	87
1.50	105	100	96	104	99	96	101	98	95	90
2.00	108	104	100	106	103	99	104	101	98	93
2.50	110	106	103	108	104	102	105	102	100	94
3.00	111	108	105	110	106	104	106	104	102	95
4.00	113	110	108	111	109	107	108	106	104	97
5.00	115	112	110	112	110	109	108	107	106	98
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-05

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:56%
 Test Distance:5.850m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:37.20V I:0.3500A P:13.02W PF:1.000 Freq:0Hz Lamp Flux:1088x1 lm		
NAME: TS100-13W-830	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		



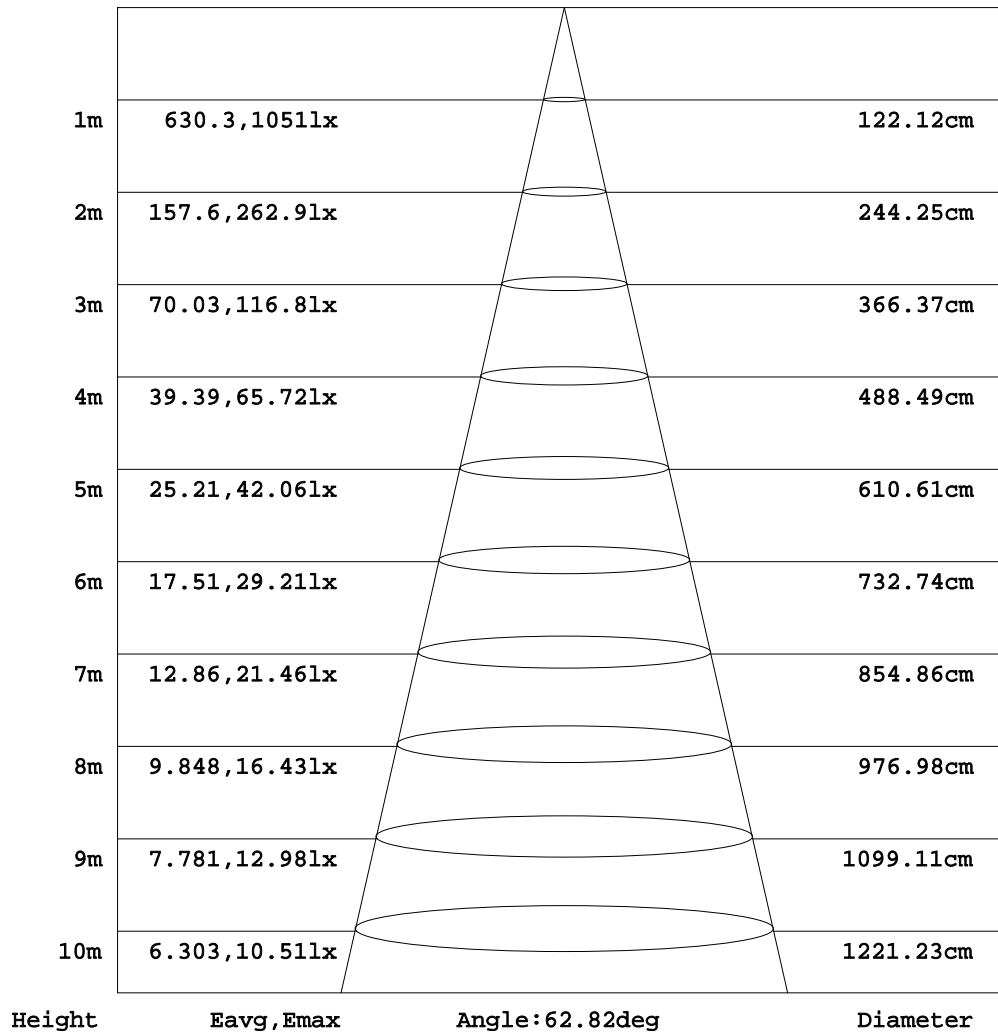
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-05

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:56%
 Test Distance:5.850m [K=1.0000]
 Remarks:

AAI Figure

Test:U:37.20V I:0.3500A P:13.02W PF:1.000 Freq:0Hz Lamp Flux:1088x1 lm		
NAME: TS100-13W-830	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		

Flux out:773.1 lm



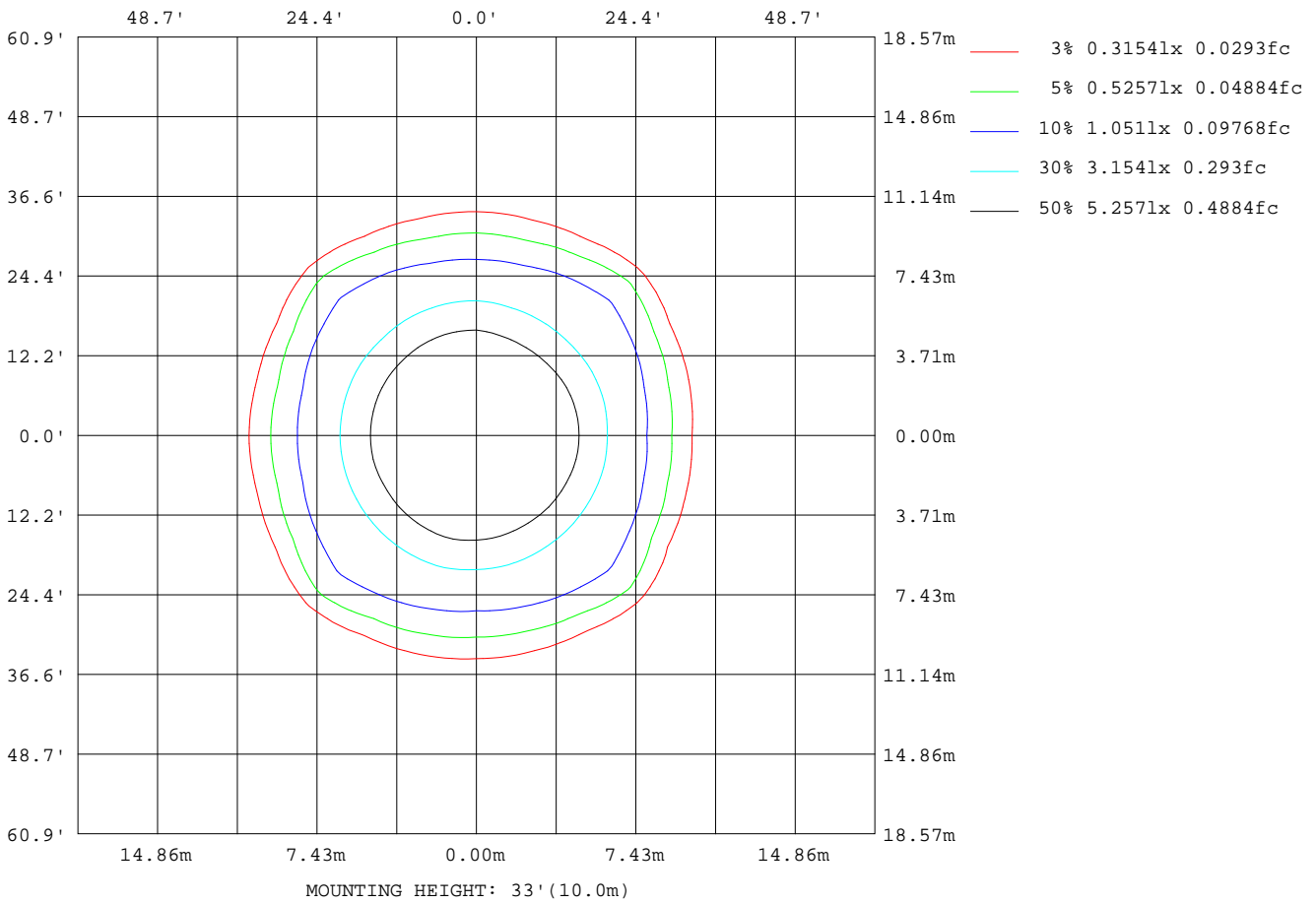
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2018-11-05

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:37.20V I:0.3500A P:13.02W PF:1.000 Freq:0Hz Lamp Flux:1088x1 lm		
NAME: TS100-13W-830	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-05

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:56%
 Test Distance:5.850m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:37.20V I:0.3500A P:13.02W PF:1.000 Freq:0Hz Lamp Flux:1088x1 lm		
NAME: TS100-13W-830	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		

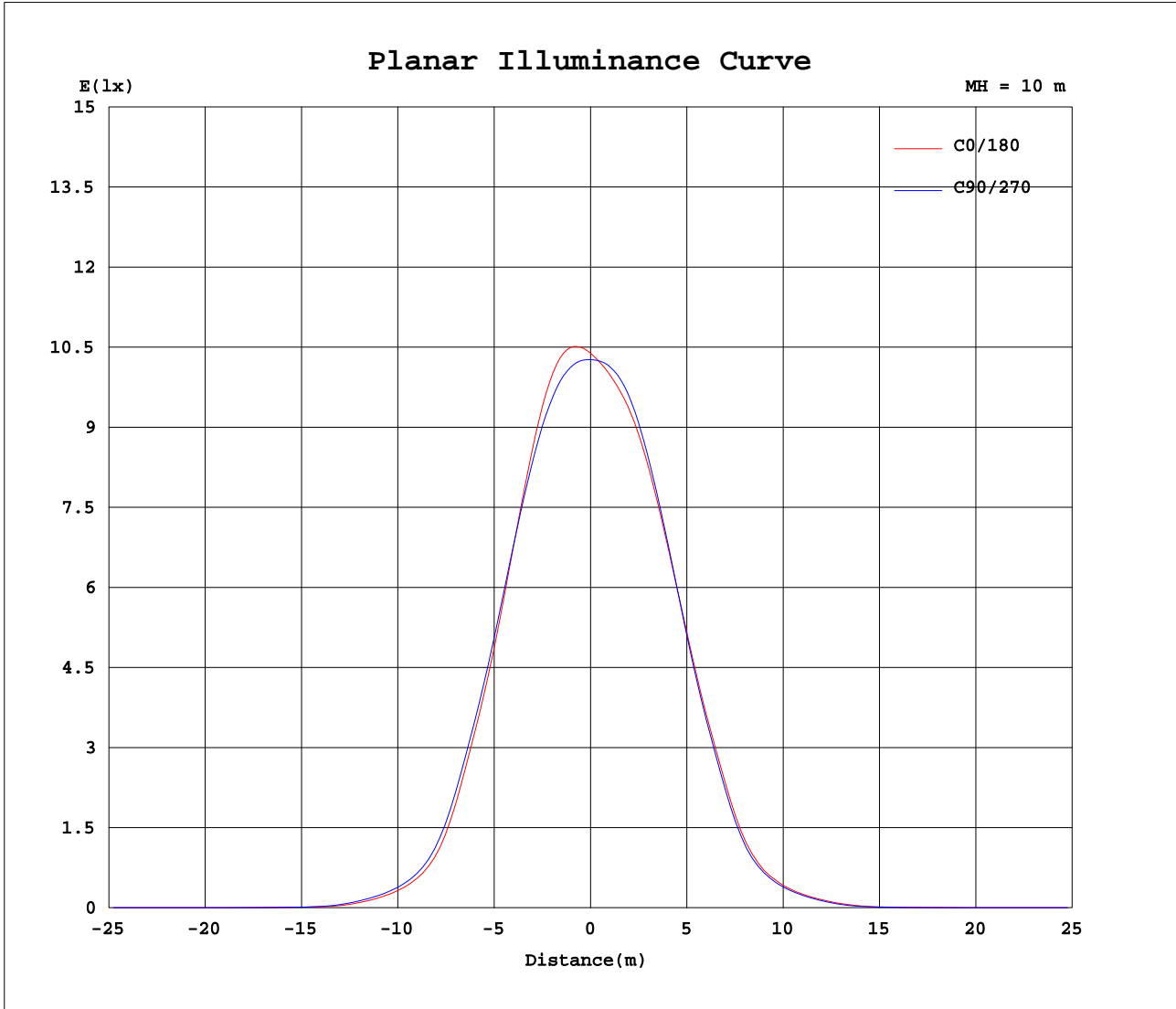
AvgL	cd/m2
L_0~180(65)av	263
L_0~180(75)av	148
L_0~180(85)av	123
L_90~270(65)av	254
L_90~270(75)av	115
L_90~270(85)av	68
L_45(65)av	360
L_45(75)av	177
L_45(85)av	87

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2018-11-05

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Myles
 Test Date: 2018-11-05

γ Range: 0 - 90DEG
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 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity: 56%
 Test Distance: 5.850m [K=1.0000]
 Remarks:

