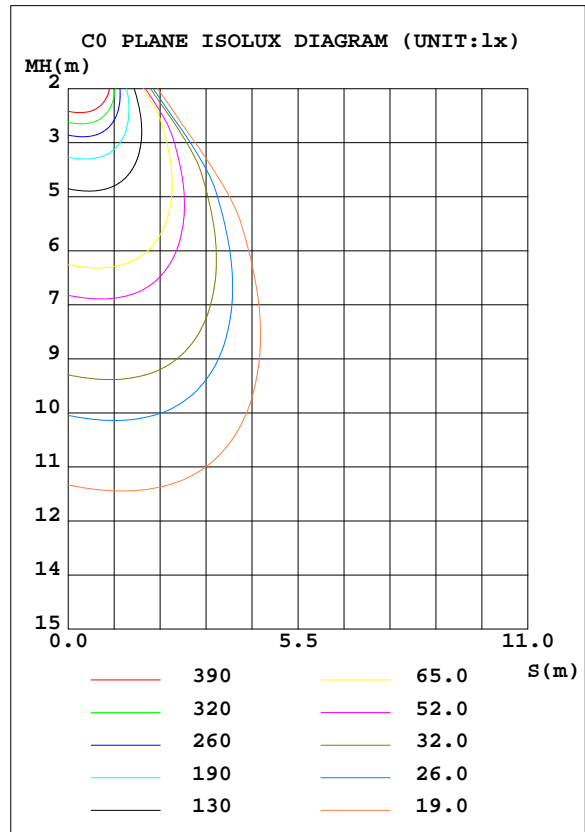
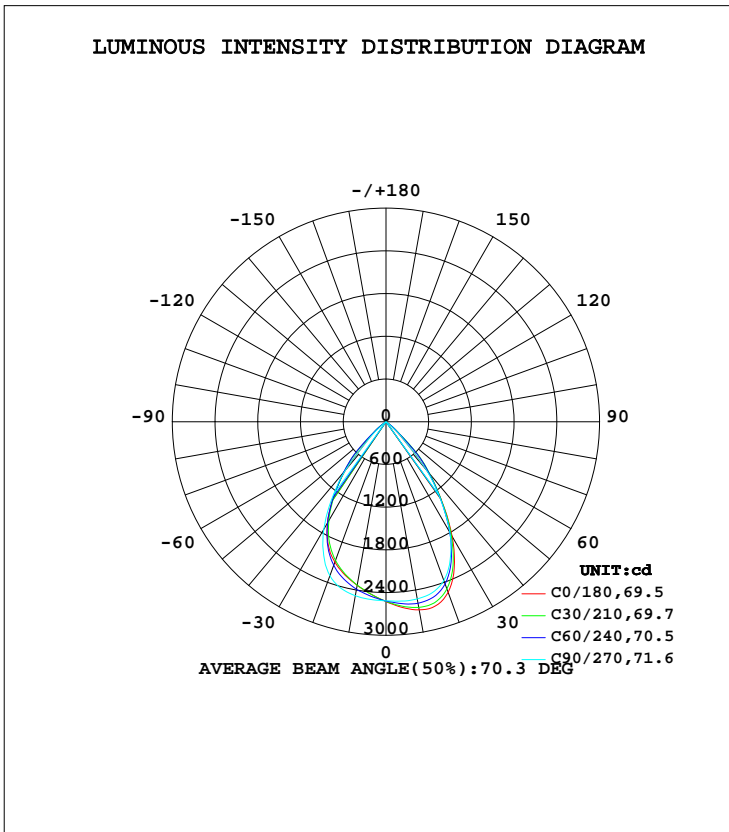


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:36.00V I:1.050A P:37.80W PF:1.000 Freq:0Hz Lamp Flux:3130.4lx1 lm		
NAME: TS200-38W-940	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L218mm*W218mm*H80mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 82.82 lm/W			
MODEL	CITIZEN-4000K	I _{max} (cd)	2694	S/MH(C0/180)	1.04
NOMINAL POWER(W)	38	LOR(%)	100.0	S/MH(C90/270)	1.05
RATED VOLTAGE(V)	36.0	TOTAL FLUX(lm)	3130.4	η UP, DN(C0-180)	0.0,50.5
NOMINAL FLUX(lm)	3130.41	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,49.5
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	36	η down(%)	100.0	CIBSE SHR MAX	1.10



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-03

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	2682	2620	2526	2404	2332	2351	2482	2626	0- 10	239.7	239.7	7.66,7.66
20	2550	2463	2373	2203	2099	2090	2302	2476	10- 20	687.5	927.1	29.6,29.6
30	1859	1819	1795	1672	1649	1603	1749	1805	20- 30	947.1	1874	59.9,59.9
40	896.0	954.2	870.7	917.3	881.2	898.1	885.9	948.2	30- 40	825.3	2700	86.2,86.2
50	73.54	382.6	88.38	384.8	127.6	355.8	86.86	359.9	40- 50	378.7	3078	98.3,98.3
60	6.435	8.264	7.015	9.565	7.500	8.417	6.301	6.964	50- 60	45.85	3124	99.8,99.8
70	2.331	2.661	2.738	2.978	2.846	2.713	2.350	2.142	60- 70	4.076	3128	99.9,99.9
80	0.7423	0.9676	1.014	1.156	0.9169	0.9806	0.7642	0.7223	70- 80	1.724	3130	100,100
90	0.1815	0.1858	0.2230	0.2405	0.1268	0.1159	0.1071	0.1028	80- 90	0.5153	3130	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): 2952 lm

%lum = 94.3%
%lamp = 94.3%

Conical surface Flux(120deg): 3124.1 lm

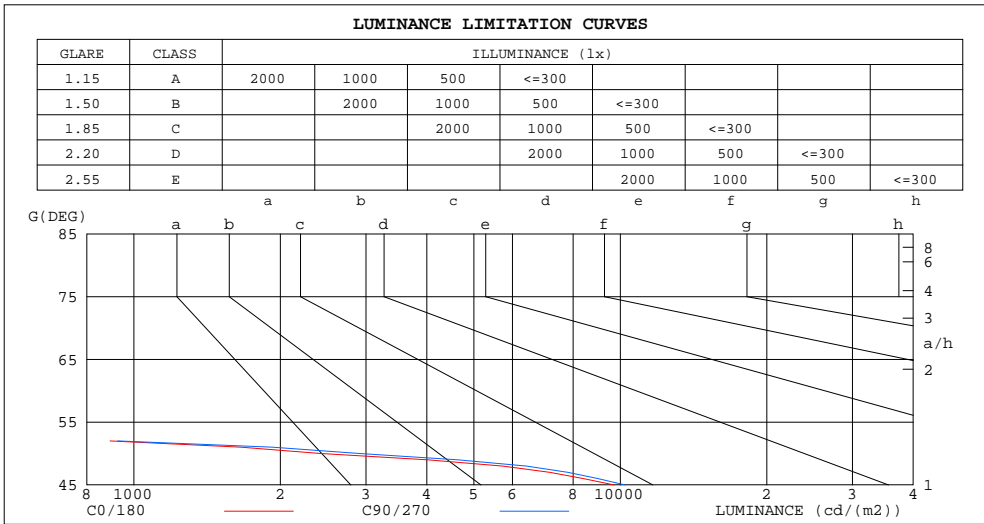
%lum = 99.8%
%lamp = 99.8%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2018-11-03

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:36.00V I:1.050A P:37.80W PF:1.000 Freq:0Hz Lamp Flux:3130.4lx1 lm		
NAME: TS200-38W-940	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L218mm*W218mm*H80mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	85	129
80	90	123
75	112	138
70	143	168
65	193	219
60	271	295
55	570	602
50	2407	2893
45	9708	10219

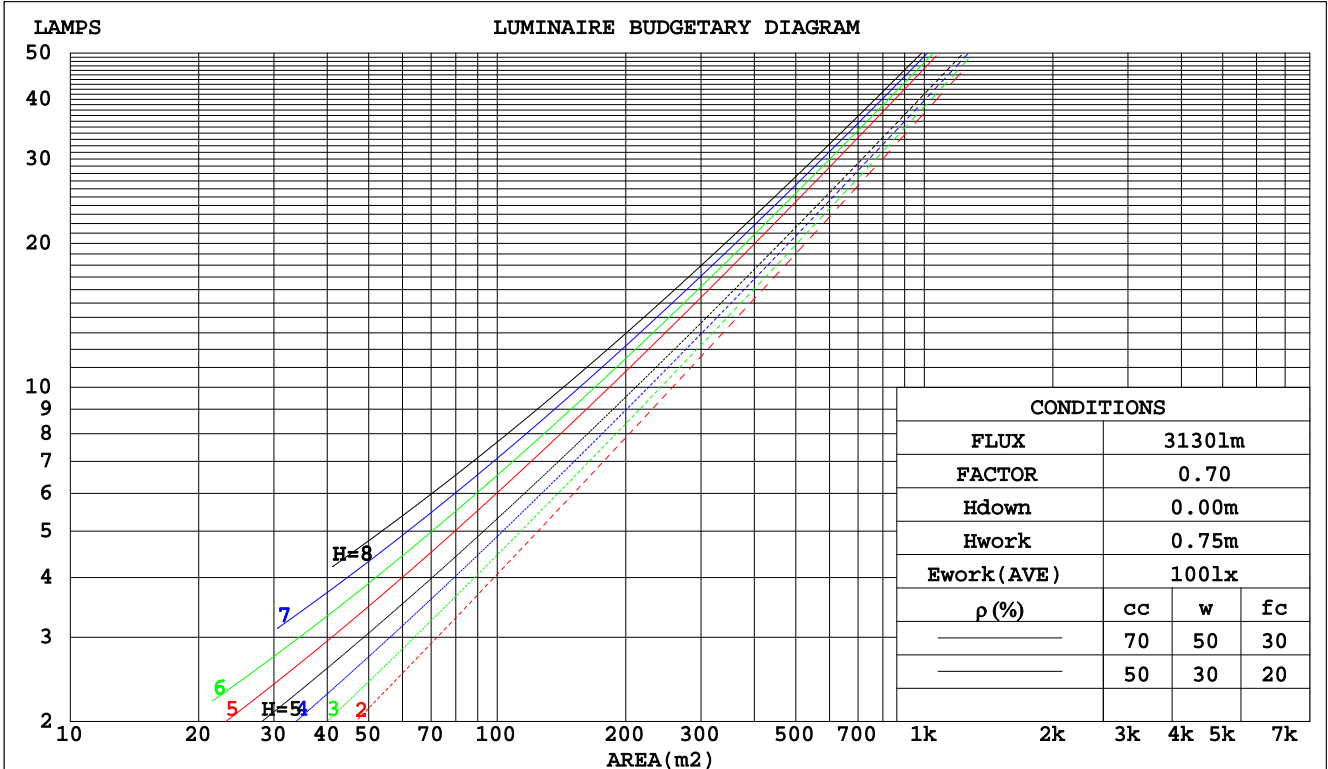
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-03

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:36.00V I:1.050A P:37.80W PF:1.000 Freq:0Hz Lamp Flux:3130.4lx1 lm		
NAME: TS200-38W-940	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L218mm*W218mm*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	1.00
1.0	1.10	1.08	1.05	1.08	1.06	1.04	1.04	1.02	1.00	1.00	.99	.97	.97	.96	.95	.93
2.0	1.02	.97	.94	1.00	.96	.93	.97	.94	.91	.94	.91	.89	.91	.89	.87	.85
3.0	.94	.89	.85	.93	.88	.84	.90	.86	.82	.88	.84	.81	.85	.82	.80	.78
4.0	.87	.81	.77	.86	.80	.76	.84	.79	.75	.82	.78	.74	.80	.76	.73	.72
5.0	.81	.75	.70	.80	.74	.70	.78	.73	.69	.76	.72	.68	.75	.71	.68	.66
6.0	.75	.69	.64	.74	.68	.64	.73	.67	.63	.71	.67	.63	.70	.66	.62	.61
7.0	.70	.64	.59	.69	.63	.59	.68	.62	.58	.67	.62	.58	.66	.61	.58	.56
8.0	.65	.59	.54	.65	.59	.54	.64	.58	.54	.63	.58	.54	.62	.57	.54	.52
9.0	.61	.55	.51	.61	.55	.50	.60	.54	.50	.59	.54	.50	.58	.53	.50	.48
10.0	.57	.51	.47	.57	.51	.47	.56	.51	.47	.55	.50	.47	.55	.50	.46	.45



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Myles
 Test Date: 2018-11-03

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:36.00V I:1.050A P:37.80W PF:1.000 Freq:0Hz Lamp Flux:3130.4lx1 lm		
NAME: TS200-38W-940	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L218mm*W218mm*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	.189	.107	.034	.182	.104	.033	.169	.097	.031	.158	.091	.029	.147	.085	.027	
2.0	.183	.100	.031	.177	.098	.030	.166	.093	.029	.157	.088	.027	.147	.083	.026	
3.0	.175	.093	.028	.171	.091	.027	.161	.087	.027	.153	.084	.026	.145	.080	.025	
4.0	.168	.087	.026	.164	.086	.025	.156	.083	.025	.148	.080	.024	.141	.077	.023	
5.0	.160	.082	.024	.157	.080	.023	.150	.078	.023	.143	.076	.022	.137	.073	.022	
6.0	.153	.077	.022	.150	.076	.022	.144	.074	.021	.138	.072	.021	.133	.070	.021	
7.0	.147	.073	.021	.144	.072	.020	.138	.070	.020	.133	.068	.020	.128	.067	.020	
8.0	.140	.069	.019	.138	.068	.019	.133	.066	.019	.128	.065	.019	.124	.064	.019	
9.0	.134	.065	.018	.132	.064	.018	.128	.063	.018	.123	.062	.018	.119	.061	.018	
10.0	.129	.062	.017	.127	.061	.017	.123	.060	.017	.119	.059	.017	.115	.058	.017	

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	.101	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.158	.132	.111	.135	.114	.096	.093	.079	.067	.053	.046	.039	.017	.015	.013	
3.0	.146	.114	.088	.125	.098	.076	.086	.068	.053	.050	.040	.031	.016	.013	.010	
4.0	.137	.099	.070	.117	.086	.061	.081	.060	.043	.047	.035	.025	.015	.011	.008	
5.0	.129	.088	.058	.111	.076	.050	.076	.053	.035	.044	.031	.021	.014	.010	.007	
6.0	.122	.079	.048	.105	.068	.042	.072	.048	.029	.042	.028	.018	.014	.009	.006	
7.0	.116	.071	.040	.100	.062	.035	.069	.043	.025	.040	.026	.015	.013	.008	.005	
8.0	.110	.065	.034	.095	.057	.030	.066	.040	.021	.038	.023	.013	.012	.008	.004	
9.0	.105	.060	.030	.091	.052	.026	.063	.037	.018	.037	.022	.011	.012	.007	.004	
10.0	.101	.056	.026	.087	.049	.023	.060	.034	.016	.035	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-03

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:36.00V I:1.050A P:37.80W PF:1.000 Freq:0Hz Lamp Flux:3130.4lx1 lm		
NAME: TS200-38W-940	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L218mm*W218mm*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	14.0	15.0	14.2	15.2	15.4	13.8	14.8	14.0	15.0	15.2
3H	13.8	14.7	14.1	15.0	15.2	13.6	14.6	13.9	14.8	15.0
4H	13.7	14.6	14.0	14.8	15.1	13.5	14.4	13.8	14.6	14.9
6H	13.6	14.5	13.9	14.7	15.0	13.4	14.3	13.7	14.5	14.8
8H	13.6	14.4	13.9	14.6	14.9	13.4	14.2	13.7	14.5	14.7
12H	13.5	14.3	13.8	14.6	14.8	13.3	14.1	13.7	14.4	14.7
4H 2H	13.7	14.6	14.0	14.8	15.1	13.5	14.4	13.8	14.7	14.9
3H	13.5	14.3	13.9	14.6	14.8	13.3	14.1	13.7	14.4	14.7
4H	13.4	14.1	13.8	14.4	14.7	13.3	14.0	13.6	14.3	14.6
6H	13.3	13.9	13.7	14.3	14.6	13.2	13.8	13.5	14.1	14.5
8H	13.3	13.9	13.7	14.2	14.6	13.1	13.7	13.5	14.0	14.4
12H	13.2	13.8	13.7	14.1	14.5	13.1	13.6	13.5	14.0	14.3
8H 4H	13.3	13.9	13.7	14.2	14.6	13.1	13.7	13.5	14.0	14.4
6H	13.2	13.7	13.6	14.0	14.5	13.0	13.5	13.4	13.9	14.3
8H	13.1	13.5	13.6	14.0	14.4	13.0	13.4	13.4	13.8	14.2
12H	13.1	13.4	13.6	13.9	14.3	12.9	13.3	13.4	13.7	14.2
12H 4H	13.2	13.8	13.7	14.1	14.5	13.1	13.6	13.5	14.0	14.3
6H	13.1	13.5	13.6	14.0	14.4	13.0	13.4	13.4	13.8	14.2
8H	13.1	13.4	13.6	13.9	14.3	12.9	13.3	13.4	13.7	14.2
Variations with the observer position at spacings:										
S = 1.0H	+ 2.6 / -22.1					+ 2.6 / -20.7				
1.5H	+ 4.3 / -16.8					+ 4.2 / -16.8				
2.0H	+ 6.4 / -16.4					+ 6.6 / -16.1				

CIE Pub.117, 3130 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 4.0)

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-03

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:36.00V I:1.050A P:37.80W PF:1.000 Freq:0Hz Lamp Flux:3130.4lx1 lm		
NAME: TS200-38W-940	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L218mm*W218mm*H80mm	
MFR.: NEKO LIGHTING AG		

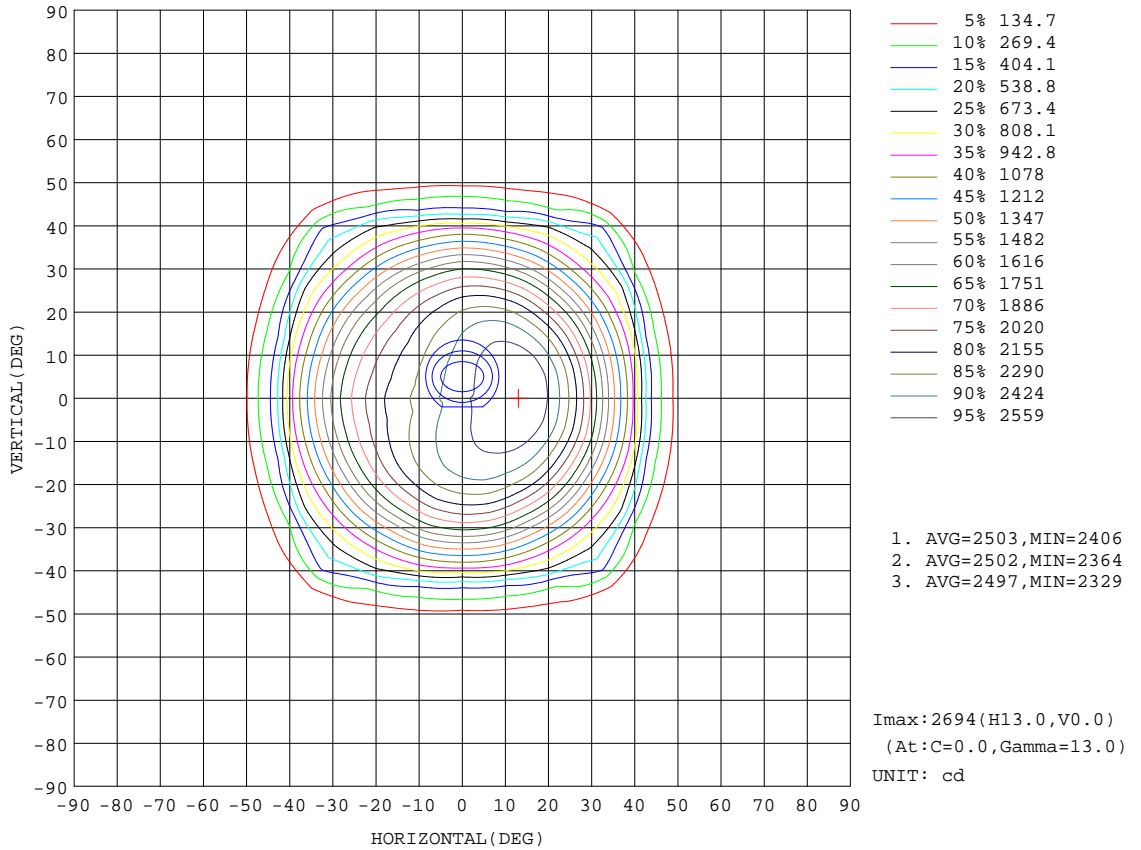
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	83	76	71	82	75	71	81	75	71	67
0.80	91	84	80	90	84	80	89	84	80	76
1.00	97	90	86	96	90	86	94	90	86	81
1.25	101	96	92	100	95	91	98	94	91	86
1.50	104	99	95	103	98	95	101	97	94	89
2.00	108	103	100	106	102	99	103	100	97	92
2.50	109	105	102	108	104	101	105	102	99	93
3.00	111	107	104	109	106	103	106	103	101	95
4.00	113	110	108	111	108	106	107	105	104	96
5.00	114	112	110	112	110	108	108	107	105	97
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:2018-11-03

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:36.00V I:1.050A P:37.80W PF:1.000 Freq:0Hz Lamp Flux:3130.4lx1 lm		
NAME: TS200-38W-940	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L218mm*W218mm*H80mm	
MFR.: NEKO LIGHTING AG		



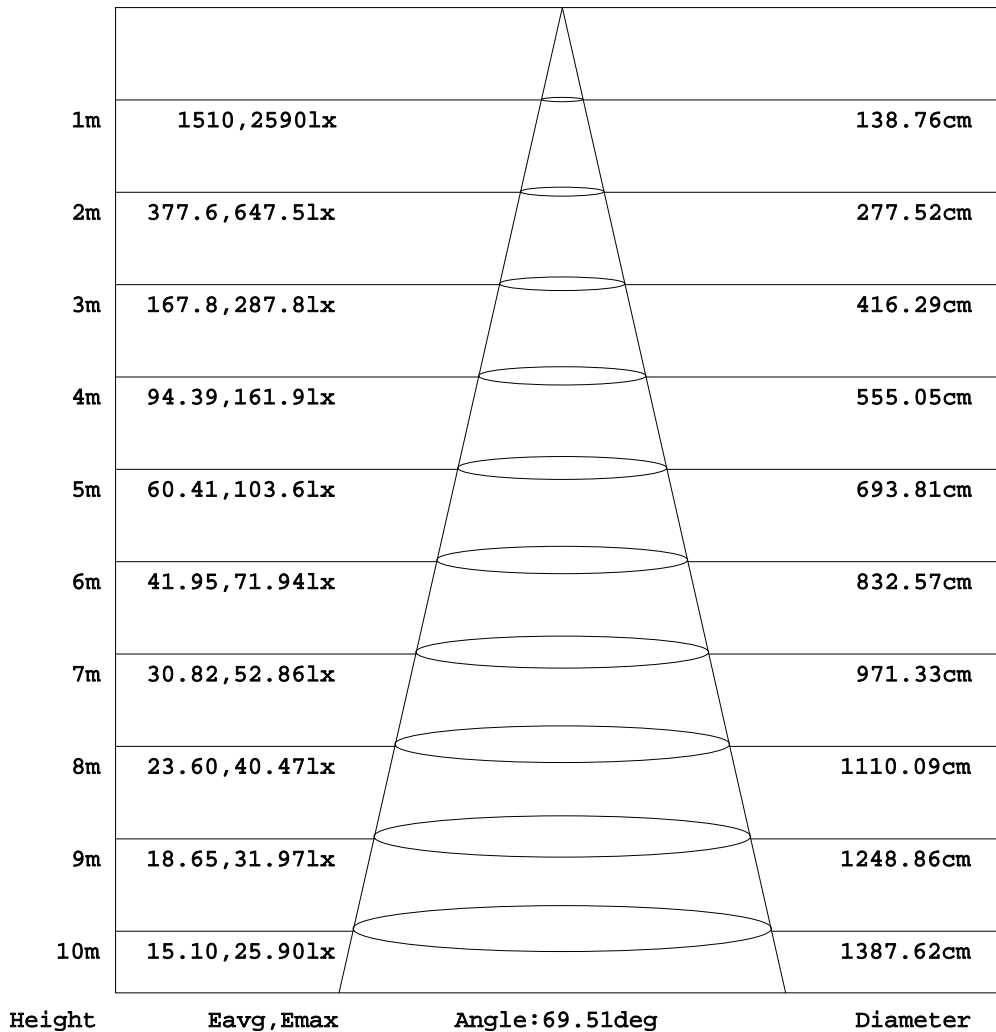
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-03

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:36.00V I:1.050A P:37.80W PF:1.000 Freq:0Hz Lamp Flux:3130.4lx1 lm		
NAME: TS200-38W-940	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L218mm*W218mm*H80mm	
MFR.: NEKO LIGHTING AG		

Flux out:2326 lm



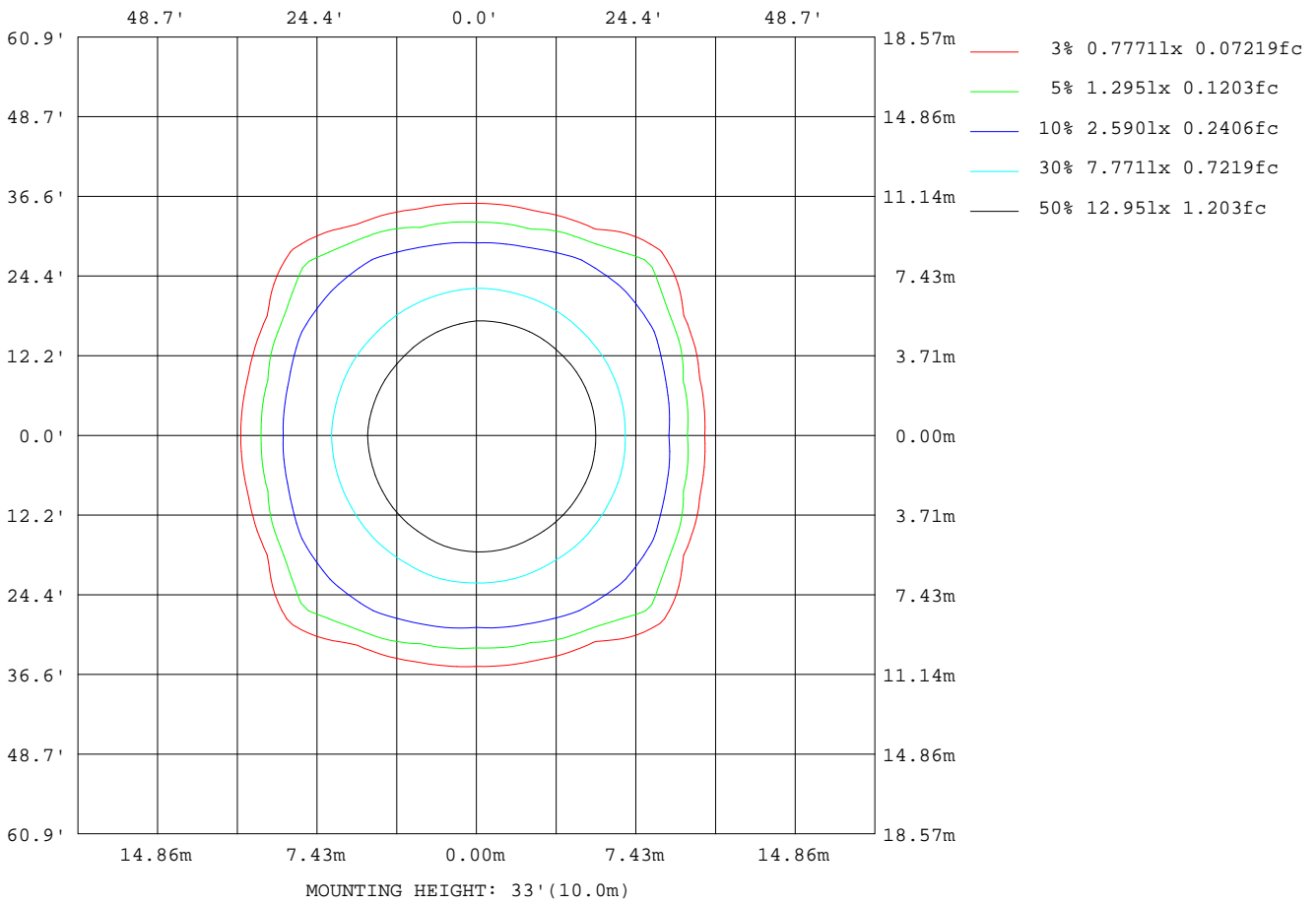
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2018-11-03

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:36.00V I:1.050A P:37.80W PF:1.000 Freq:0Hz Lamp Flux:3130.4lx1 lm		
NAME: TS200-38W-940	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L218mm*W218mm*H80mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Myles
 Test Date:2018-11-03

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:36.00V I:1.050A P:37.80W PF:1.000 Freq:0Hz Lamp Flux:3130.4lx1 lm		
NAME: TS200-38W-940	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: L218mm*W218mm*H80mm	
MFR.: NEKO LIGHTING AG		

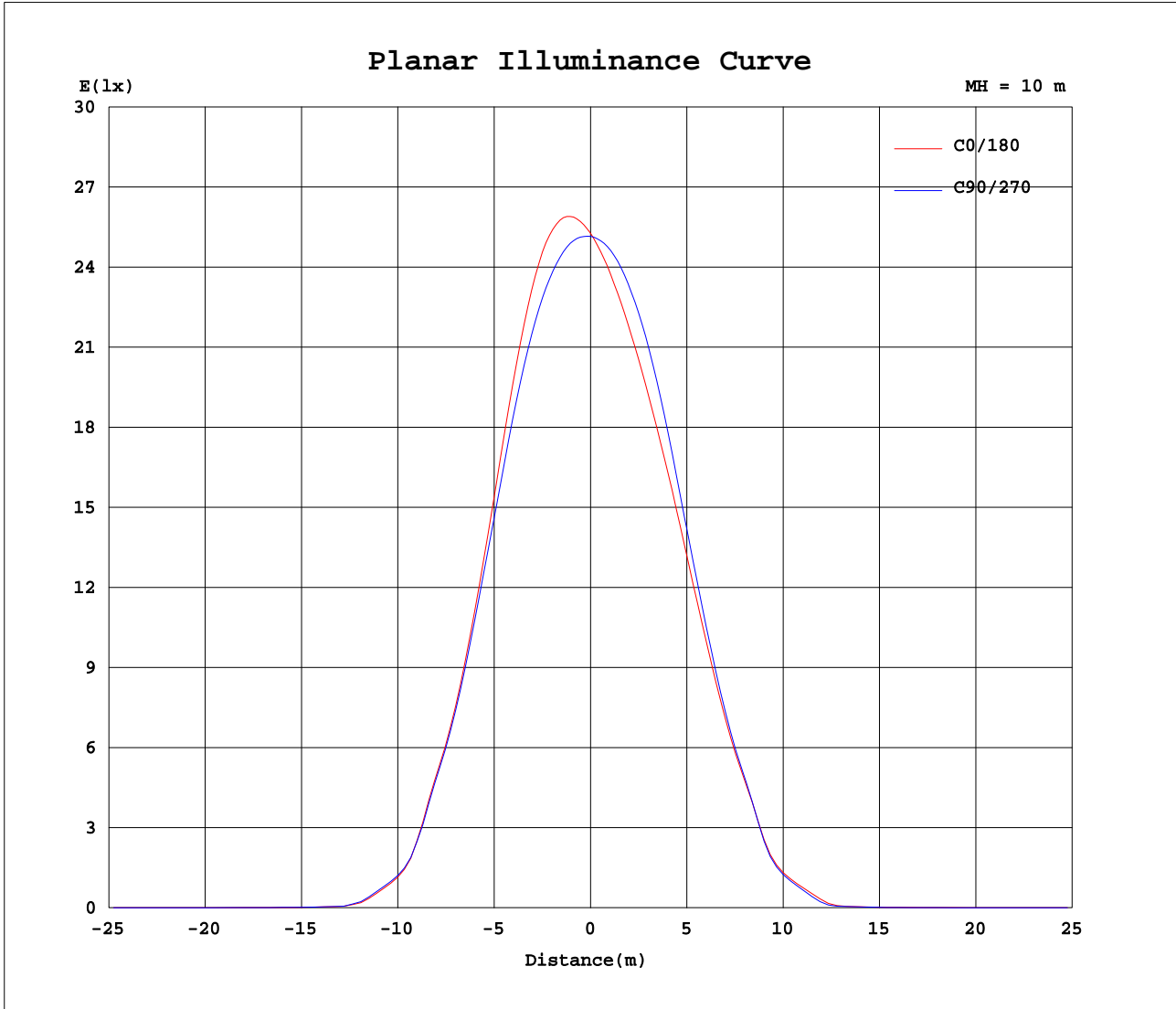
AvgL	cd/m2
L_0~180(65)av	212
L_0~180(75)av	125
L_0~180(85)av	91
L_90~270(65)av	205
L_90~270(75)av	126
L_90~270(85)av	105
L_45(65)av	198
L_45(75)av	135
L_45(85)av	110

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Myles
Test Date:2018-11-03

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: 2018-11-03

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:

