

**LED Recessed Ground Light TERARACE Maxi-10W-830-20**



Light Output Ratio:	100.0%	
Luminaire Power:	10.69 W	
SHR Nominal:	0.00	Calculated using the TM5
SHR Maximum:	1.00	fine grid method.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Myles  
Test Date: 2019-04-09

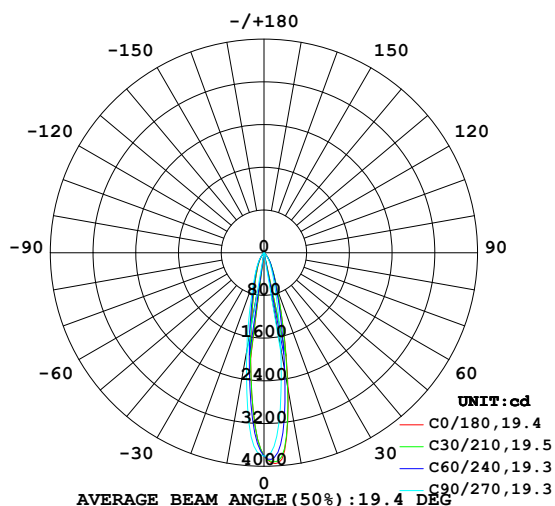
γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 56%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

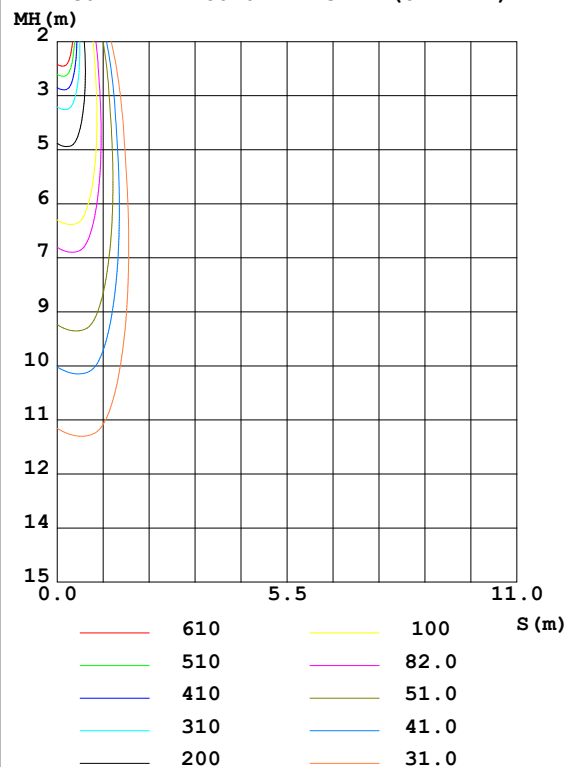
Test:U:24.00V I:0.4452A P:10.69W PF:1.000 Freq:0Hz Lamp Flux:841.462x1 lm		
NAME: TERARACE Maxi-10W-830-20	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 68mm*H124mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 78.75 lm/W			
MODEL	CITIZEN-3000K	I <sub>max</sub> (cd)	3969	S/MH (C0/180)	0.26
NOMINAL POWER (W)	10	LOR (%)	100.0	S/MH (C90/270)	0.33
RATED VOLTAGE (V)	24	TOTAL FLUX (lm)	841.46	$\eta$ UP, DN (C0-180)	0.0, 51.7
NOMINAL FLUX (lm)	841.462	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 48.3
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	24	$\eta$ down (%)	100.0	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-04-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
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Remarks:

## ZONAL FLUX DIAGRAM

### ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	2589	2531	1809	1509	1381	1397	1845	2286	0- 10	263.9	263.9	31.4,31.4
20	700.8	723.0	533.4	451.6	422.9	456.3	551.1	643.2	10- 20	286.9	550.8	65.5,65.5
30	259.2	289.0	217.0	179.5	163.8	189.8	223.3	241.3	20- 30	161.8	712.6	84.7,84.7
40	95.33	99.07	70.30	53.04	41.78	47.70	68.26	88.76	30- 40	84.57	797.2	94.7,94.7
50	22.63	20.66	16.32	16.07	12.39	14.10	17.37	24.49	40- 50	28.06	825.3	98.1,98.1
60	8.676	8.689	6.793	5.427	4.833	5.686	7.531	9.198	50- 60	10.43	835.7	99.3,99.3
70	3.167	3.261	2.307	1.620	1.402	1.724	2.560	3.142	60- 70	4.396	840.1	99.8,99.8
80	0.6475	0.6781	0.1662	0.0392	0.0273	0.0737	0.2088	0.5500	70- 80	1.305	841.4	100,100
90	0.0400	0.0377	0.0402	0.0392	0.0273	0.0266	0.0268	0.0283	80- 90	0.0845	841.5	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): 815.42 lm

%lum = 96.9%

%lamp = 96.9%

Conical surface Flux(120deg): 835.68 lm

%lum = 99.3%

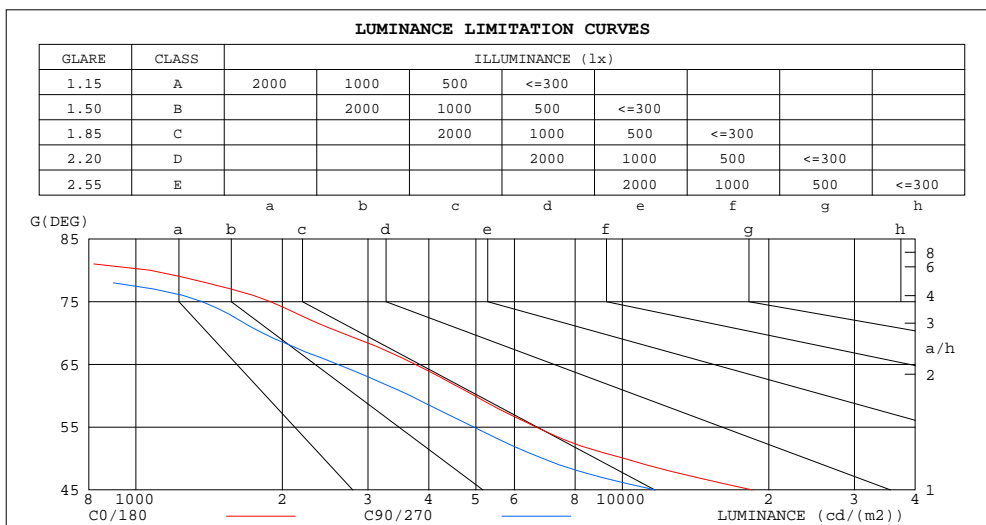
%lamp = 99.3%

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Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:24.00V I:0.4452A P:10.69W PF:1.000 Freq:0Hz Lamp Flux:841.462x1 lm		
NAME: TERARACE Maxi-10W-830-20	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 68mm*H124mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	175	138
80	1068	258
75	1888	1366
70	2652	1821
65	3750	2598
60	4970	3668
55	6648	4947
50	10083	6856
45	18494	11695

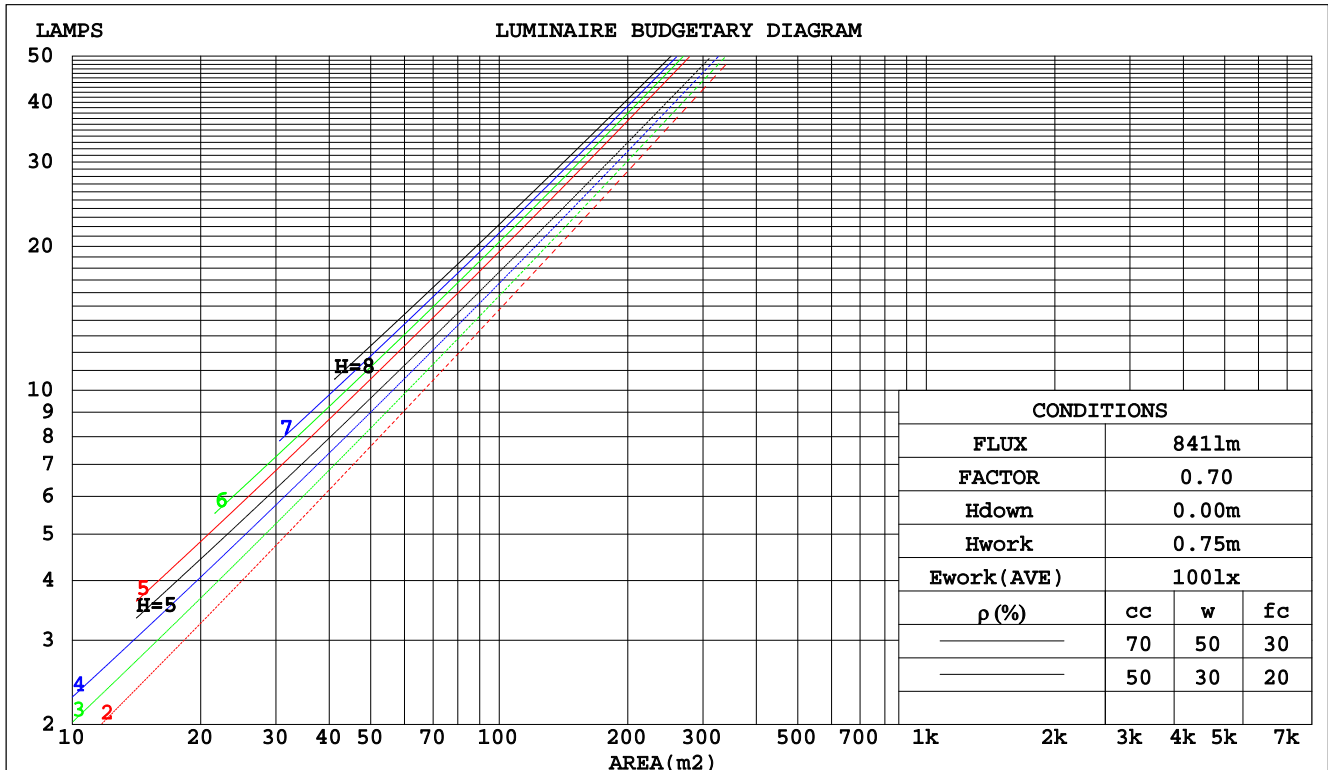
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**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

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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	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96
2.0	1.06	1.03	.00	1.04	1.01	.99	1.01	.99	.97	.98	.96	.95	.96	.94	.93	.91
3.0	1.01	.96	.93	.99	.96	.93	.97	.94	.91	.94	.92	.90	.92	.90	.88	.87
4.0	.96	.91	.88	.95	.91	.87	.93	.89	.86	.91	.88	.85	.89	.87	.84	.83
5.0	.92	.87	.83	.91	.86	.83	.89	.85	.82	.87	.84	.82	.86	.83	.81	.80
6.0	.88	.83	.79	.87	.82	.79	.86	.82	.79	.84	.81	.78	.83	.80	.78	.77
7.0	.84	.79	.76	.84	.79	.76	.82	.78	.76	.81	.78	.75	.80	.77	.75	.74
8.0	.81	.76	.73	.81	.76	.73	.80	.76	.73	.79	.75	.72	.78	.75	.72	.71
9.0	.78	.74	.70	.78	.73	.70	.77	.73	.70	.76	.72	.70	.75	.72	.70	.69
10.0	.76	.71	.68	.75	.71	.68	.74	.70	.68	.74	.70	.68	.73	.70	.67	.66



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## WEC AND CCEC

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SPEC.:3000K	DIM.: $\phi$ 68mm*H124mm	
MFR.: NEKO LIGHTING AG		

$\rho_{cc}$	80%			70%			50%			30%			10%			0	
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
$\rho_{fc}$	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.151	.086	.027	.145	.083	.026	.132	.076	.024	.121	.070	.022	.110	.064	.021		
2.0	.142	.078	.024	.137	.075	.023	.127	.070	.022	.117	.066	.021	.108	.061	.019		
3.0	.134	.071	.021	.129	.069	.021	.121	.065	.020	.113	.062	.019	.105	.058	.018		
4.0	.126	.066	.019	.122	.064	.019	.115	.061	.018	.108	.058	.018	.102	.055	.017		
5.0	.119	.061	.018	.116	.060	.017	.110	.057	.017	.104	.055	.016	.098	.052	.016		
6.0	.113	.057	.016	.110	.056	.016	.105	.054	.016	.100	.052	.015	.095	.050	.015		
7.0	.108	.053	.015	.105	.052	.015	.100	.051	.015	.096	.049	.014	.091	.047	.014		
8.0	.102	.050	.014	.100	.049	.014	.096	.048	.014	.092	.047	.013	.088	.045	.013		
9.0	.098	.047	.013	.096	.047	.013	.092	.046	.013	.089	.044	.013	.085	.043	.013		
10.0	.094	.045	.012	.092	.044	.012	.088	.043	.012	.085	.042	.012	.082	.041	.012		

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	.152	.133	.116	.130	.114	.100	.089	.079	.070	.052	.046	.041	.017	.015	.013	
3.0	.138	.113	.094	.119	.098	.081	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.127	.098	.077	.109	.085	.067	.075	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.117	.086	.064	.100	.075	.055	.069	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.108	.076	.054	.093	.066	.047	.064	.046	.033	.037	.027	.020	.012	.009	.006	
7.0	.101	.068	.046	.087	.059	.040	.060	.042	.028	.035	.025	.017	.011	.008	.006	
8.0	.095	.062	.039	.081	.054	.034	.056	.038	.024	.033	.022	.014	.011	.007	.005	
9.0	.089	.056	.034	.077	.049	.030	.053	.034	.021	.031	.020	.013	.010	.007	.004	
10.0	.084	.052	.030	.073	.045	.026	.050	.032	.019	.029	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG  
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Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-04-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:24.00V I:0.4452A P:10.69W PF:1.000 Freq:0Hz Lamp Flux:841.462x1 lm										
NAME: TERARACE Maxi-10W-830-20					TYPE:Downlight			SERIAL No.:		
SPEC.:3000K					DIM.: $\phi$ 68mm*H124mm					
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	17.6	18.3	17.8	18.5	18.6	16.4	17.2	16.6	17.3	17.5
3H	17.5	18.2	17.8	18.4	18.6	16.3	17.0	16.6	17.2	17.4
4H	17.5	18.2	17.8	18.4	18.6	16.3	16.9	16.5	17.2	17.4
6H	17.4	18.0	17.7	18.3	18.5	16.2	16.8	16.5	17.1	17.3
8H	17.4	18.0	17.7	18.2	18.5	16.2	16.8	16.5	17.0	17.3
12H	17.3	17.9	17.6	18.2	18.4	16.1	16.7	16.4	17.0	17.2
4H 2H	17.4	18.1	17.7	18.3	18.5	16.3	16.9	16.5	17.2	17.4
3H	17.4	18.0	17.7	18.2	18.5	16.2	16.8	16.5	17.1	17.3
4H	17.4	17.9	17.7	18.2	18.5	16.2	16.7	16.5	17.0	17.3
6H	17.3	17.8	17.7	18.1	18.4	16.1	16.6	16.5	16.9	17.2
8H	17.2	17.7	17.6	18.0	18.4	16.0	16.5	16.4	16.8	17.2
12H	17.2	17.6	17.6	17.9	18.3	16.0	16.4	16.4	16.8	17.1
8H 4H	17.2	17.7	17.6	18.0	18.4	16.1	16.5	16.5	16.8	17.2
6H	17.2	17.5	17.6	17.9	18.3	16.0	16.3	16.4	16.7	17.1
8H	17.1	17.4	17.5	17.8	18.3	15.9	16.2	16.4	16.6	17.1
12H	17.0	17.3	17.5	17.8	18.2	15.9	16.1	16.3	16.6	17.0
12H 4H	17.2	17.6	17.6	17.9	18.3	16.0	16.4	16.4	16.8	17.2
6H	17.1	17.4	17.5	17.8	18.3	15.9	16.2	16.4	16.7	17.1
8H	17.0	17.3	17.5	17.8	18.2	15.9	16.1	16.3	16.6	17.0
Variations with the observer position at spacings:										
S = 1.0H	+ 2.5 / - 5.6					+ 2.4 / - 5.7				
1.5H	+ 4.4 / - 4.7					+ 4.2 / - 4.5				
2.0H	+ 4.6 / - 3.0					+ 3.4 / - 2.7				

CIE Pub.117, 841.5 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = -0.6$ )

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### UTILIZATION FACTORS TABLE

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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) $k(RI) \times RCR = 5$									
$k = 0.60$	88	82	78	88	82	78	87	82	78	75
0.80	96	90	86	95	90	86	94	89	86	82
1.00	100	94	91	99	94	91	97	94	90	86
1.25	104	99	95	103	98	95	101	97	94	90
1.50	106	102	99	105	101	98	103	100	97	93
2.00	109	105	102	108	104	101	105	102	99	94
2.50	111	107	104	109	106	103	106	103	101	95
3.00	112	109	106	110	107	105	107	105	103	96
4.00	114	111	109	112	110	108	108	107	105	98
5.00	115	113	111	113	111	110	109	108	107	99
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

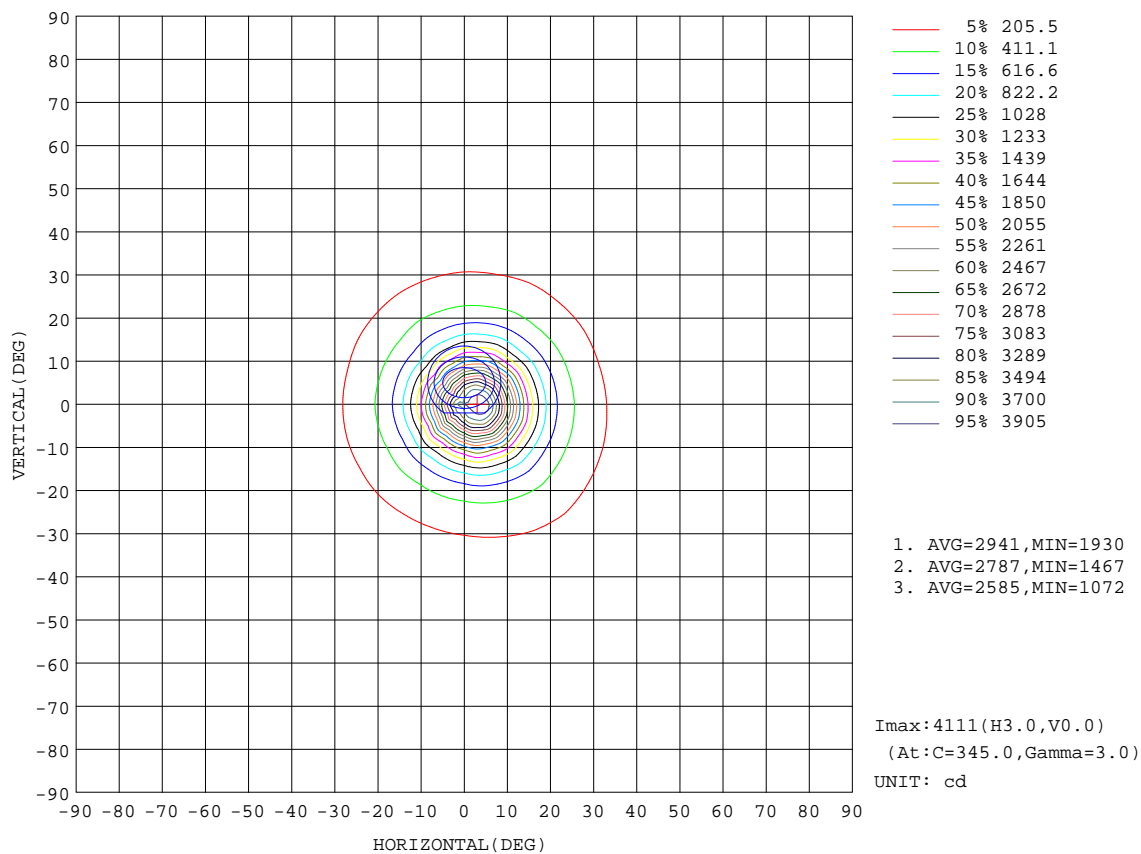
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ISOCANDELA DIAGRAM

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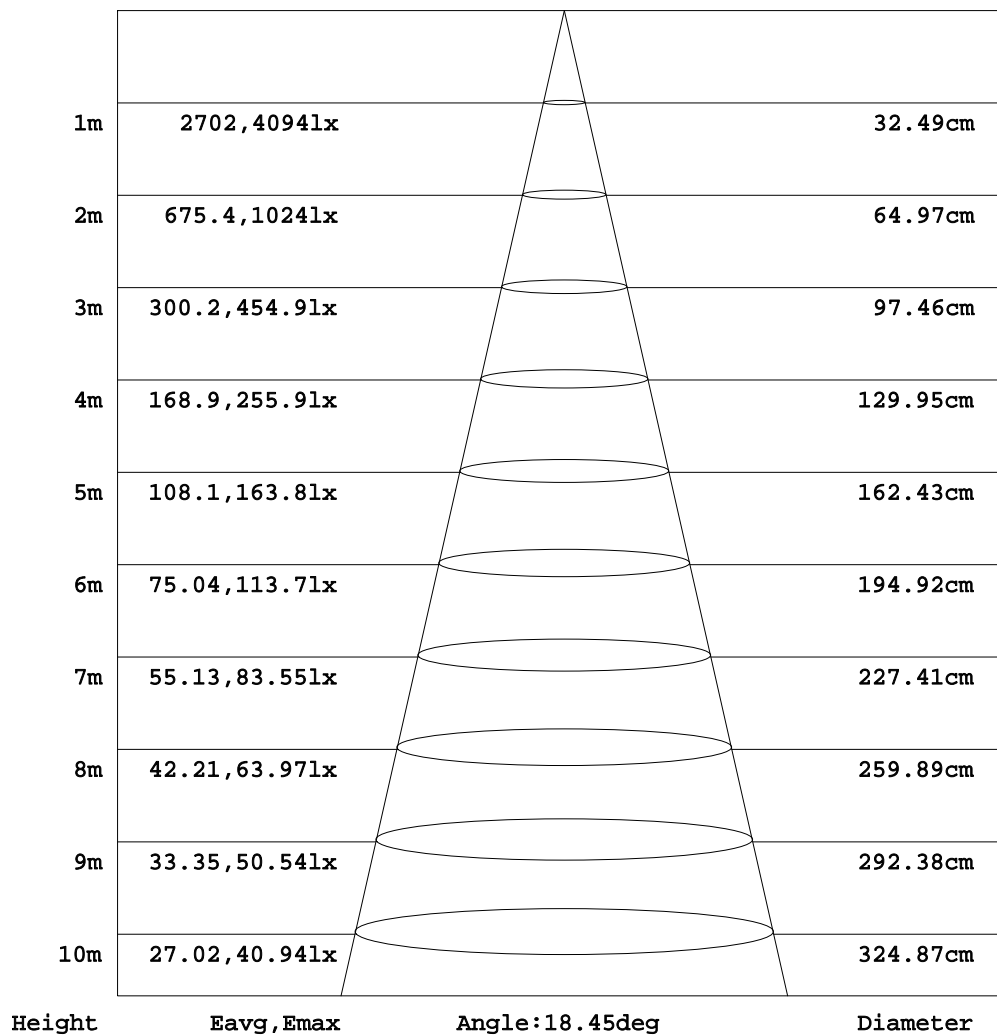
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**AAI Figure**

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Flux out:263.9 lm



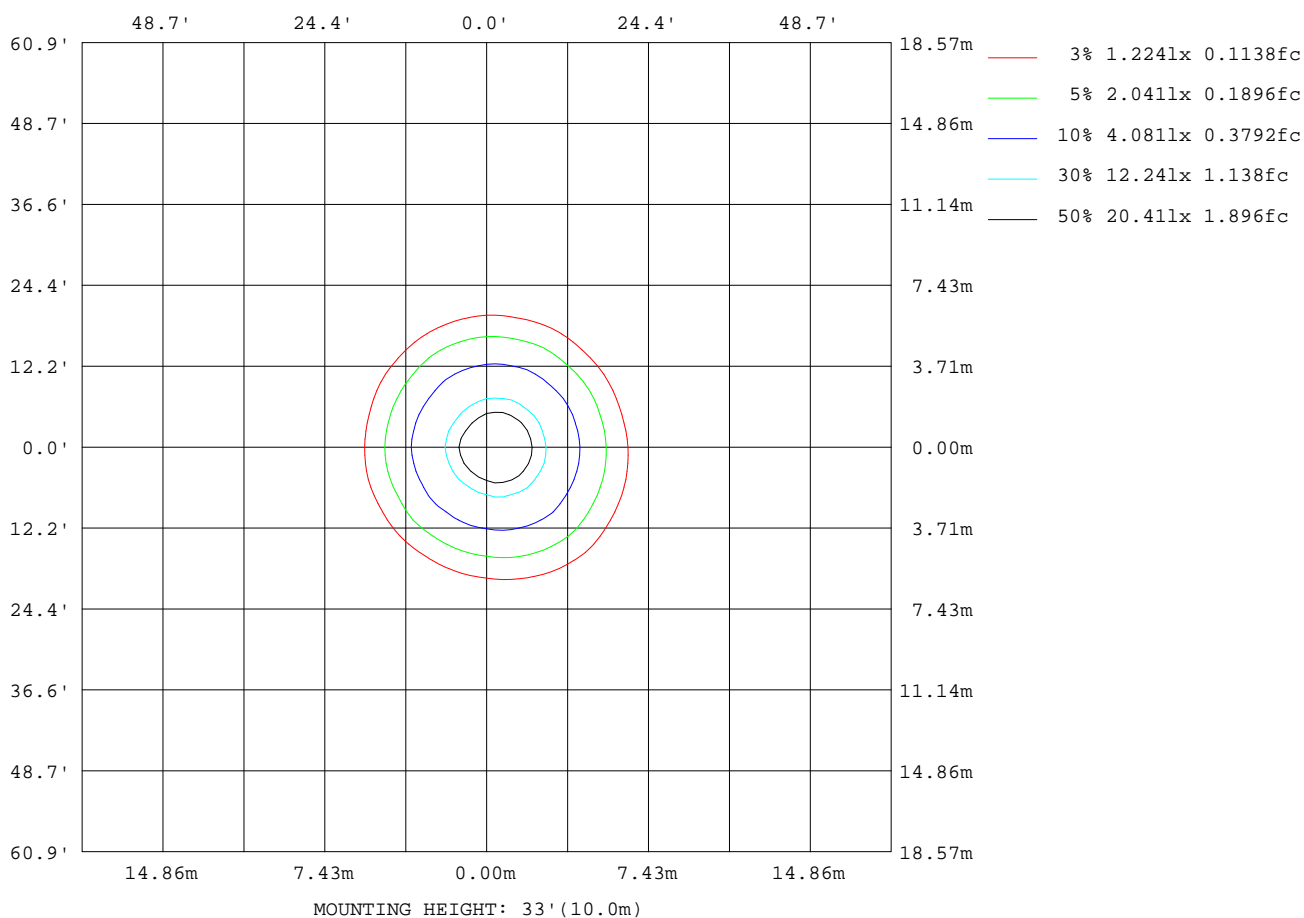
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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**ISOLUX DIAGRAM**

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### LED Avg.L Report

Test:U:24.00V I:0.4452A P:10.69W PF:1.000 Freq:0Hz Lamp Flux:841.462x1 lm		
NAME: TERARACE Maxi-10W-830-20	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 68mm*H124mm	
MFR.: NEKO LIGHTING AG		

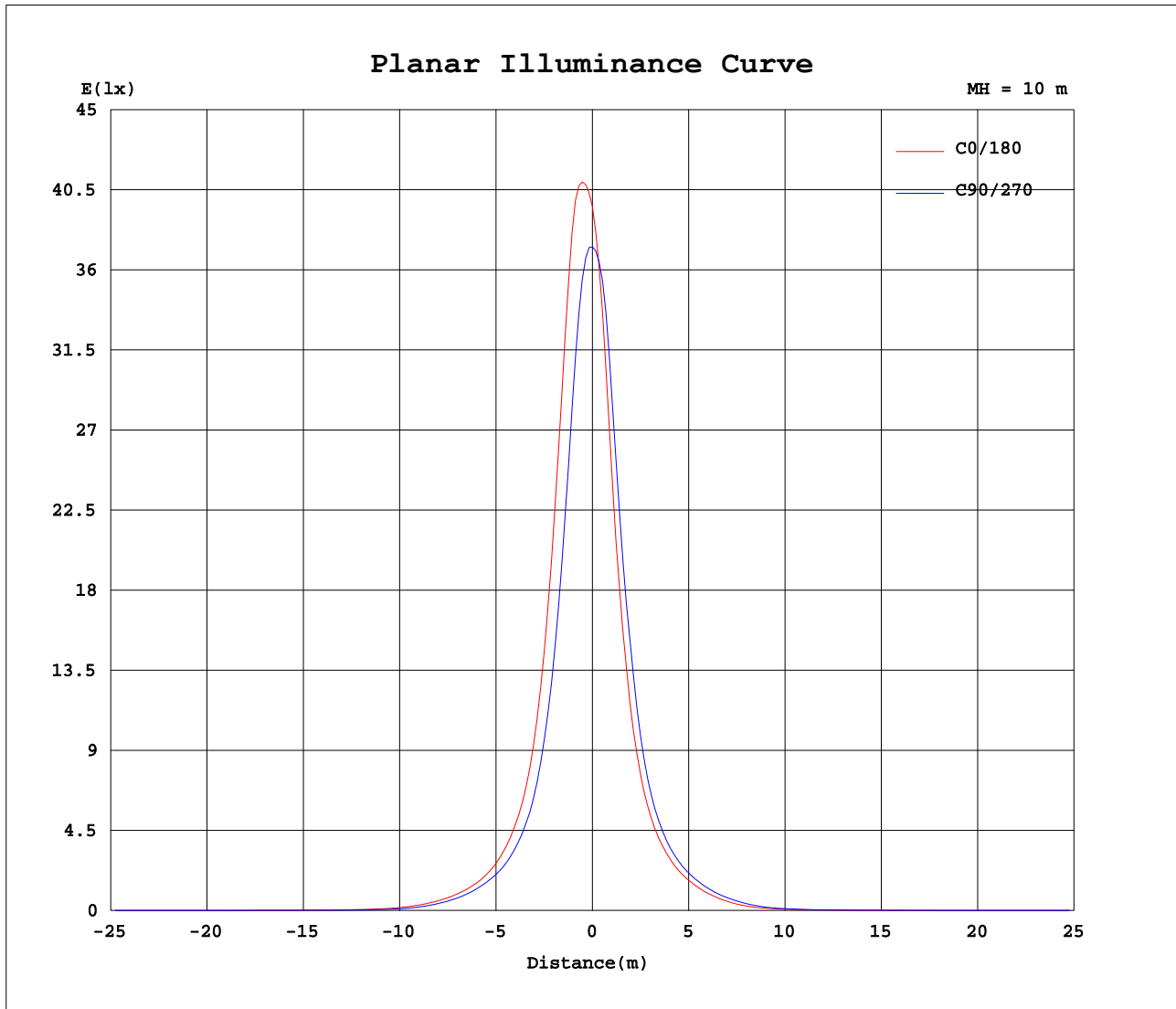
AvgL	cd/m2
L_0~180 (65) av	2672
L_0~180 (75) av	1171
L_0~180 (85) av	128
L_90~270 (65) av	2830
L_90~270 (75) av	1415
L_90~270 (85) av	113
L_45 (65) av	2838
L_45 (75) av	1285
L_45 (85) av	115

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2019-04-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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: 2019-04-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 56%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

```

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:

```

```

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:

```