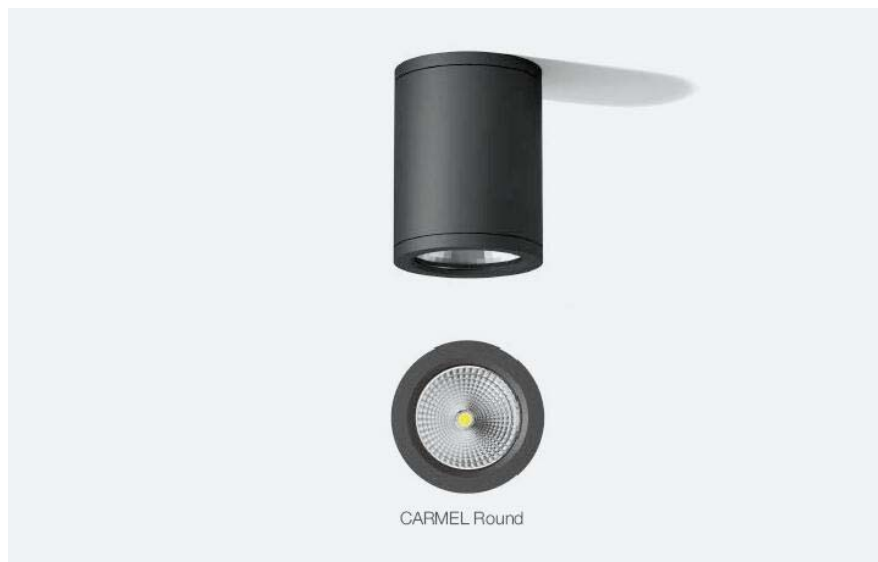


**CARMEL R-830-55°**



Light Output Ratio:	100.0%	
Luminaire Power:	5.762 W	
SHR Nominal:	0.75	Calculated using the TM5
SHR Maximum:	0.85	fine grid method.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Jason  
Test Date: 2020-09-18

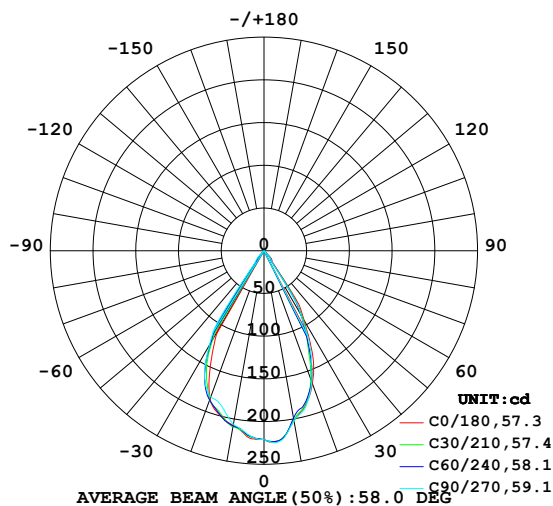
γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

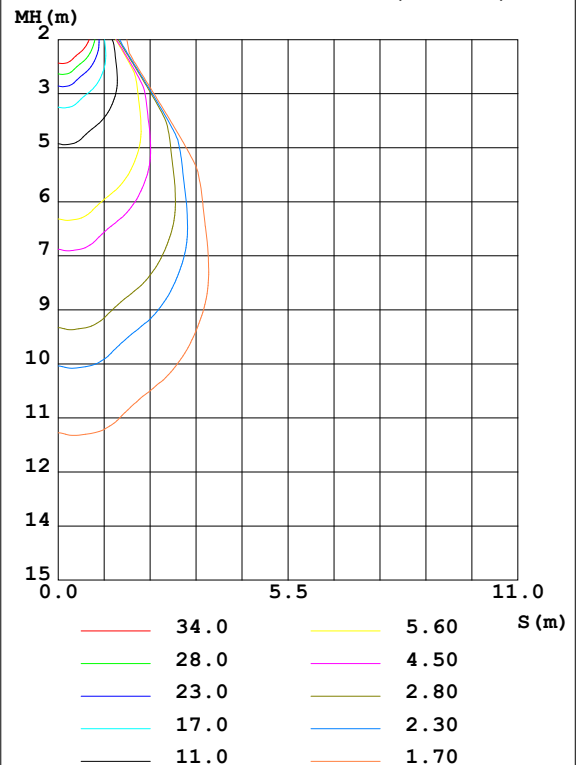
Test:U:221.1V I:0.0492A P:5.762W PF:0.5302 Freq:49.99Hz Lamp Flux:172.083x1 lm		
NAME: CARMEL R-830-55°	TYPE:Outdoor Light	SERIAL No.:
SPEC.:3000K	DIM.: φ80mm*H105mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 29.86 lm/W			
MODEL	3000K	I <sub>max</sub> (cd)	225.3	S/MH (C0/180)	0.89
NOMINAL POWER (W)	6	LOR (%)	100.0	S/MH (C90/270)	0.93
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	172.08	η UP,DN (C0-180)	0.0,46.8
NOMINAL FLUX (lm)	172.083	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,53.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	0.85

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:Jason  
 Test Date:2020-09-18

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:58%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:

### ZONAL FLUX DIAGRAM

#### ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	202.2	200.9	202.6	205.0	207.9	208.6	206.1	202.0	0- 10	20.42	20.42	11.9,11.9
20	165.7	161.3	163.2	173.2	184.4	185.6	182.1	176.4	10- 20	53.50	73.92	43,43
30	93.55	88.06	86.15	97.60	109.8	121.4	127.5	116.9	20- 30	65.01	138.9	80.7,80.7
40	14.16	11.48	11.28	8.889	9.458	9.826	14.38	20.09	30- 40	26.69	165.6	96.2,96.2
50	2.157	1.931	2.013	2.070	2.003	2.074	2.228	2.555	40- 50	4.075	169.7	98.6,98.6
60	0.9978	0.9013	0.9156	0.9650	0.8922	0.8785	0.9752	1.105	50- 60	1.290	171.0	99.4,99.4
70	0.4795	0.4430	0.4600	0.4804	0.4093	0.3999	0.4352	0.4985	60- 70	0.6566	171.7	99.7,99.7
80	0.2061	0.1854	0.2103	0.2018	0.1623	0.1661	0.1705	0.2043	70- 80	0.3261	172.0	99.9,99.9
90	0.0217	0.0175	0.0175	0.0176	0.0108	0.0131	0.0131	0.0176	80- 90	0.1065	172.1	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): 168.64 lm

%lum = 98.0%

%lamp = 98.0%

Conical surface Flux(120deg): 170.99 lm

%lum = 99.4%

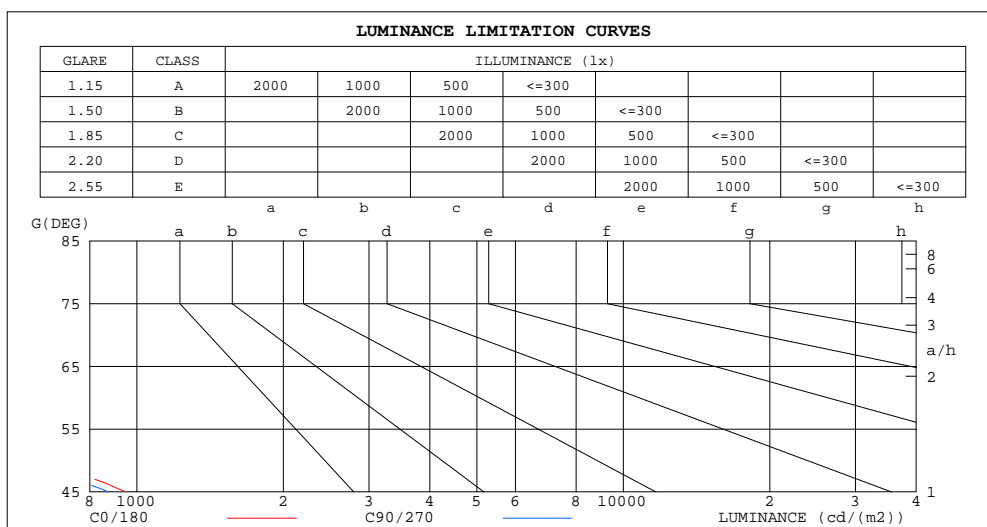
%lamp = 99.4%

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2020-09-18

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:221.1V I:0.0492A P:5.762W PF:0.5302 Freq:49.99Hz Lamp Flux:172.083x1 lm		
NAME: CARMEL R-830-55°	TYPE:Outdoor Light	SERIAL No.:
SPEC.:3000K	DIM.: φ80mm*H105mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	255	275
80	238	241
75	254	251
70	281	267
65	328	301
60	401	364
55	505	464
50	674	623
45	949	874

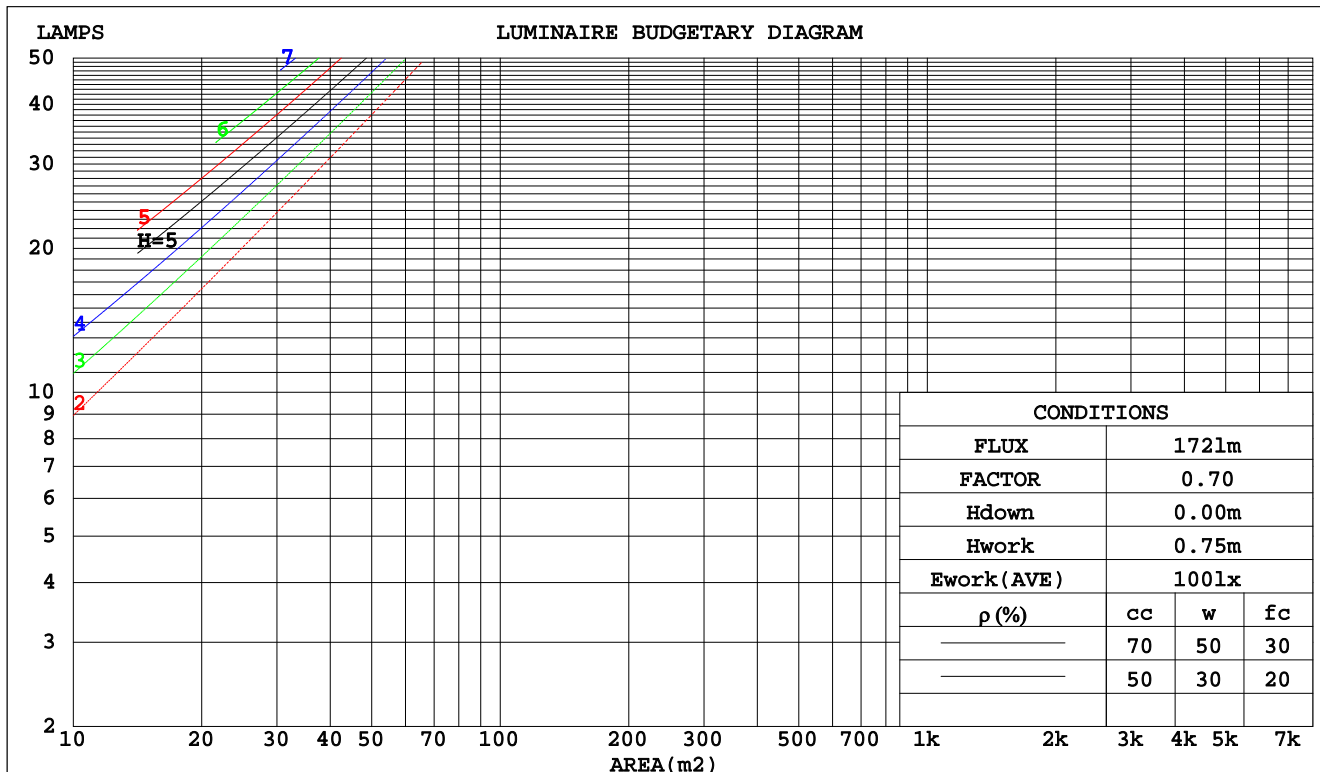
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2020-09-18

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:221.1V I:0.0492A P:5.762W PF:0.5302 Freq:49.99Hz Lamp Flux:172.083x1 lm		
NAME: CARMEL R-830-55°	TYPE:Outdoor Light	SERIAL No.:
SPEC.:3000K	DIM.: φ80mm*H105mm	
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	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	.00	.99	.98	.97	.96	.94
2.0	1.04	1.00	.97	1.02	.99	.96	.99	.96	.94	.96	.94	.92	.93	.91	.90	.88
3.0	.97	.93	.89	.96	.92	.88	.93	.90	.87	.91	.88	.85	.89	.86	.84	.83
4.0	.92	.86	.82	.90	.86	.82	.88	.84	.81	.86	.83	.80	.84	.81	.79	.78
5.0	.86	.81	.77	.85	.80	.76	.83	.79	.76	.82	.78	.75	.80	.77	.74	.73
6.0	.81	.76	.72	.81	.75	.71	.79	.74	.71	.78	.74	.70	.76	.73	.70	.69
7.0	.77	.71	.67	.76	.71	.67	.75	.70	.67	.74	.69	.66	.73	.69	.66	.65
8.0	.73	.67	.63	.72	.67	.63	.71	.66	.63	.70	.66	.63	.69	.65	.62	.61
9.0	.69	.63	.60	.69	.63	.60	.68	.63	.59	.67	.62	.59	.66	.62	.59	.58
10.0	.66	.60	.56	.65	.60	.56	.64	.59	.56	.64	.59	.56	.63	.59	.56	.55



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2020-09-18

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:5.850m [K=1.0000]  
Remarks:

## WEC AND CCEC

Test:U:221.1V I:0.0492A P:5.762W PF:0.5302 Freq:49.99Hz Lamp Flux:172.083x1 lm		
NAME: CARMEL R-830-55°	TYPE:Outdoor Light	SERIAL No.:
SPEC.:3000K	DIM.: φ80mm*H105mm	
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	.171	.097	.031	.164	.094	.030	.152	.087	.028	.140	.081	.026	.130	.075	.024		
2.0	.163	.089	.027	.157	.086	.027	.146	.081	.025	.137	.077	.024	.128	.072	.023		
3.0	.154	.082	.025	.150	.080	.024	.141	.076	.023	.132	.073	.022	.125	.069	.021		
4.0	.147	.076	.022	.143	.075	.022	.135	.072	.021	.128	.069	.021	.121	.066	.020		
5.0	.140	.071	.021	.136	.070	.020	.130	.068	.020	.124	.065	.019	.118	.063	.019		
6.0	.134	.067	.019	.131	.066	.019	.125	.064	.019	.119	.062	.018	.114	.060	.018		
7.0	.128	.063	.018	.125	.062	.018	.120	.061	.017	.115	.059	.017	.111	.057	.017		
8.0	.123	.060	.017	.120	.059	.017	.116	.058	.016	.111	.056	.016	.107	.055	.016		
9.0	.118	.057	.016	.116	.056	.016	.111	.055	.016	.107	.054	.015	.104	.053	.015		
10.0	.113	.054	.015	.111	.054	.015	.107	.053	.015	.104	.052	.015	.101	.051	.015		

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	.171	.157	.145	.146	.135	.125	.100	.093	.087	.058	.054	.050	.018	.017	.016	
2.0	.155	.133	.114	.133	.114	.098	.091	.079	.069	.052	.046	.040	.017	.015	.013	
3.0	.142	.114	.091	.122	.098	.079	.084	.068	.055	.048	.040	.032	.016	.013	.011	
4.0	.132	.099	.074	.113	.085	.064	.078	.059	.045	.045	.035	.027	.014	.011	.009	
5.0	.123	.087	.061	.105	.075	.053	.073	.053	.037	.042	.031	.022	.014	.010	.007	
6.0	.115	.078	.051	.099	.067	.044	.068	.047	.031	.040	.028	.019	.013	.009	.006	
7.0	.109	.070	.043	.093	.061	.037	.065	.043	.026	.038	.025	.016	.012	.008	.005	
8.0	.103	.064	.037	.089	.055	.032	.061	.039	.023	.036	.023	.014	.012	.008	.004	
9.0	.098	.058	.032	.084	.051	.028	.058	.036	.020	.034	.021	.012	.011	.007	.004	
10.0	.093	.054	.028	.081	.047	.024	.056	.033	.017	.033	.020	.010	.011	.006	.003	

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2020-09-18

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:5.850m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

Test:U:221.1V I:0.0492A P:5.762W PF:0.5302 Freq:49.99Hz Lamp Flux:172.083x1 lm												
NAME: CARMEL R-830-55°					TYPE:Outdoor Light			SERIAL No.:				
SPEC.:3000K					DIM.: φ80mm*H105mm							
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	3H	17.6	18.4	17.9	18.6	18.8	16.5	17.3	16.7	17.5	17.7	
	4H	17.5	18.3	17.8	18.5	18.7	16.4	17.2	16.7	17.4	17.6	
	6H	17.5	18.2	17.7	18.4	18.7	16.4	17.1	16.6	17.3	17.6	
	8H	17.4	18.1	17.7	18.4	18.6	16.3	17.0	16.6	17.3	17.5	
	12H	17.4	18.0	17.7	18.3	18.6	16.3	17.0	16.6	17.2	17.5	
	4H	2H	17.5	18.3	17.8	18.5	18.7	16.4	17.2	16.7	17.4	17.6
	3H	17.4	18.0	17.7	18.3	18.6	16.3	16.9	16.6	17.2	17.5	
	4H	17.3	17.9	17.6	18.2	18.5	16.2	16.8	16.5	17.1	17.4	
	6H	17.2	17.8	17.6	18.1	18.4	16.1	16.7	16.5	17.0	17.4	
	8H	17.2	17.7	17.6	18.0	18.4	16.1	16.6	16.5	17.0	17.3	
	12H	17.1	17.6	17.6	18.0	18.4	16.1	16.5	16.5	16.9	17.3	
	8H	4H	17.2	17.7	17.6	18.0	18.4	16.1	16.6	16.5	16.9	17.3
	6H	17.1	17.5	17.5	17.9	18.3	16.0	16.4	16.4	16.8	17.2	
	8H	17.1	17.4	17.5	17.8	18.3	16.0	16.3	16.4	16.8	17.2	
	12H	17.0	17.3	17.5	17.8	18.2	16.0	16.3	16.4	16.7	17.2	
	12H	4H	17.1	17.6	17.5	17.9	18.3	16.0	16.5	16.4	16.9	17.2
	6H	17.0	17.4	17.5	17.8	18.3	16.0	16.3	16.4	16.7	17.2	
	8H	17.0	17.3	17.5	17.8	18.2	15.9	16.3	16.4	16.7	17.2	
Variations with the observer position at spacings:												
S = 1.0H	+ 2.4 / - 4.7					+ 3.2 / - 4.9						
1.5H	+ 4.6 / - 4.1					+ 3.7 / - 4.3						
2.0H	+ 2.2 / - 1.2					+ 2.2 / - 1.3						

CIE Pub.117, 172.1 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = -6.1$ )

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2020-09-18

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:5.850m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:221.1V I:0.0492A P:5.762W PF:0.5302 Freq:49.99Hz Lamp Flux:172.083x1 lm		
NAME: CARMEL R-830-55°	TYPE:Outdoor Light	SERIAL No.:
SPEC.:3000K	DIM.: φ80mm*H105mm	
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	79	76
0.80	96	91	87	96	91	87	95	90	87	83
1.00	100	95	92	100	95	91	98	95	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	101	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	109	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		

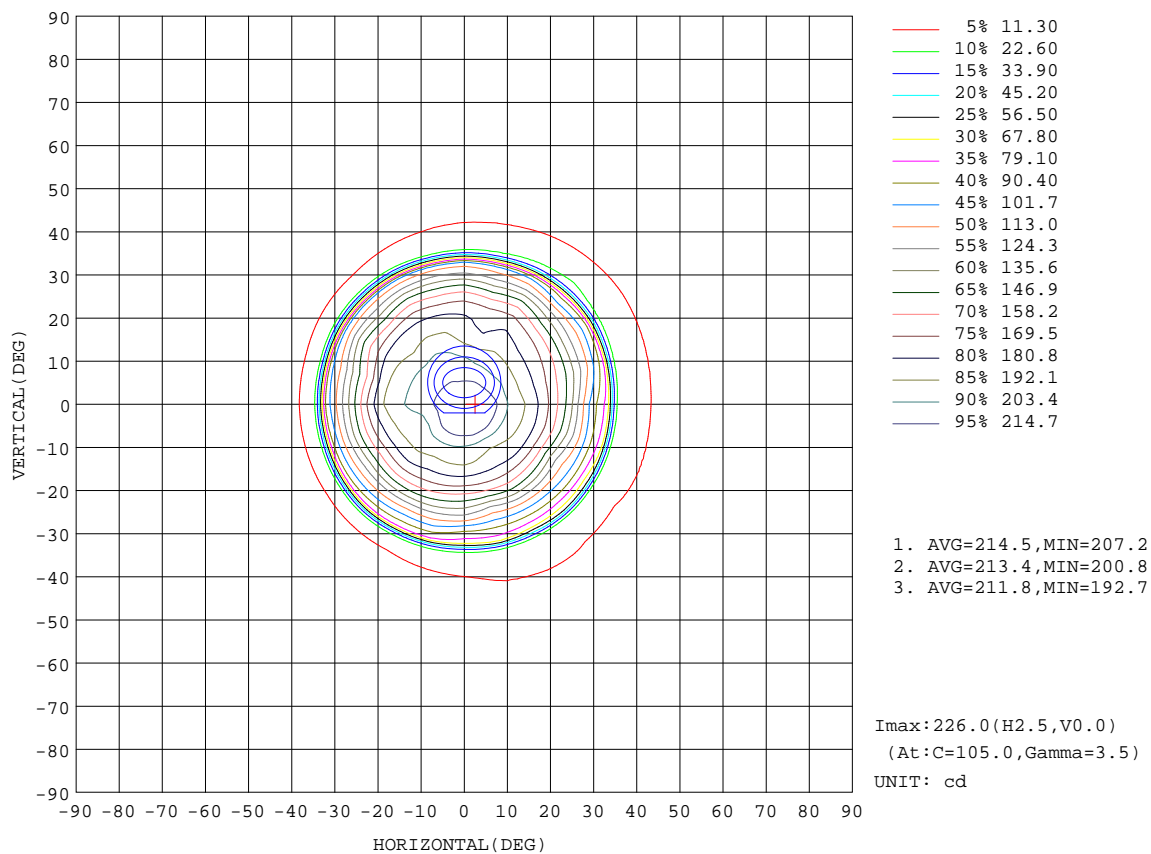
C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jason  
 Test Date:2020-09-18

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:58%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:



ISOCANDELA DIAGRAM

Test:U:221.1V I:0.0492A P:5.762W PF:0.5302 Freq:49.99Hz Lamp Flux:172.083x1 lm		
NAME: CARMEL R-830-55°	TYPE:Outdoor Light	SERIAL No.:
SPEC.:3000K	DIM.: φ80mm*H105mm	
MFR.: NEKO LIGHTING AG		



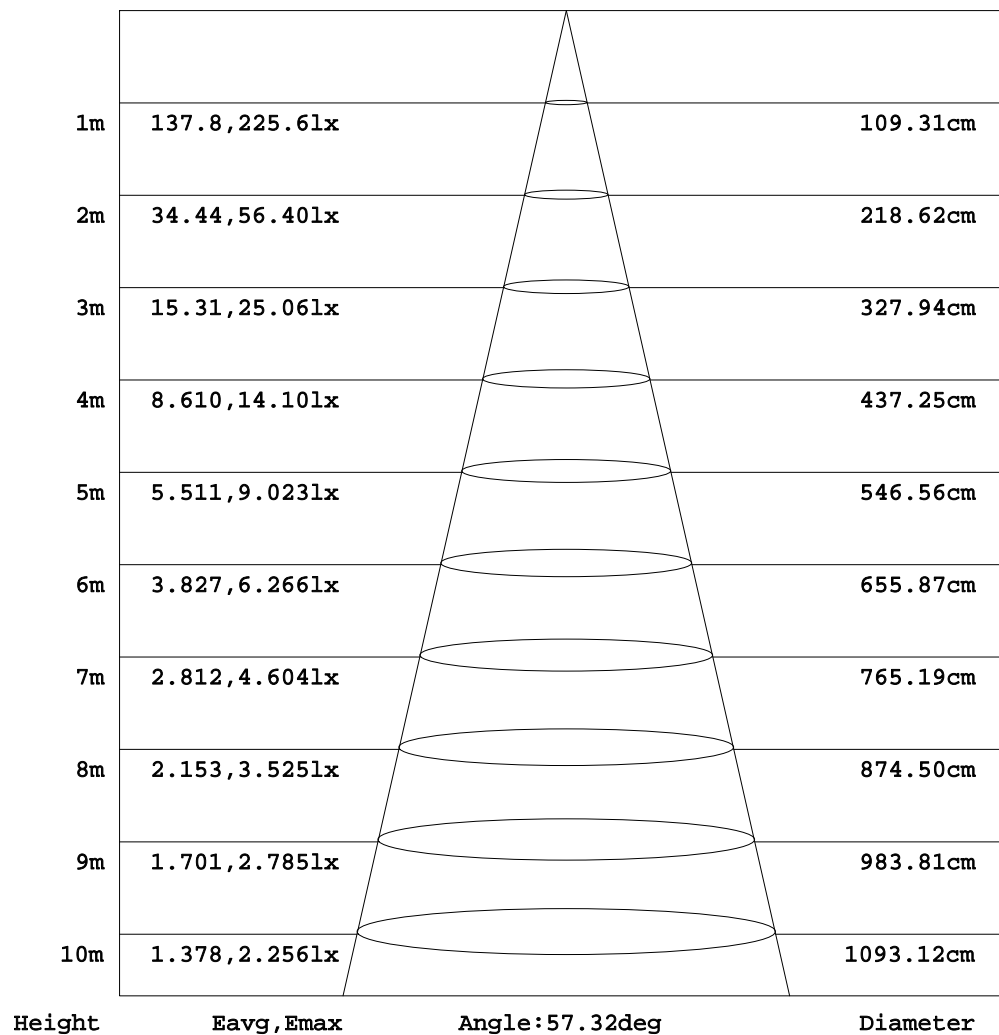
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2020-09-18

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**AAI Figure**

Test:U:221.1V I:0.0492A P:5.762W PF:0.5302 Freq:49.99Hz Lamp Flux:172.083x1 lm		
NAME: CARMEL R-830-55°	TYPE:Outdoor Light	SERIAL No.:
SPEC.:3000K	DIM.: φ80mm*H105mm	
MFR.: NEKO LIGHTING AG		

Flux out:133.0 lm



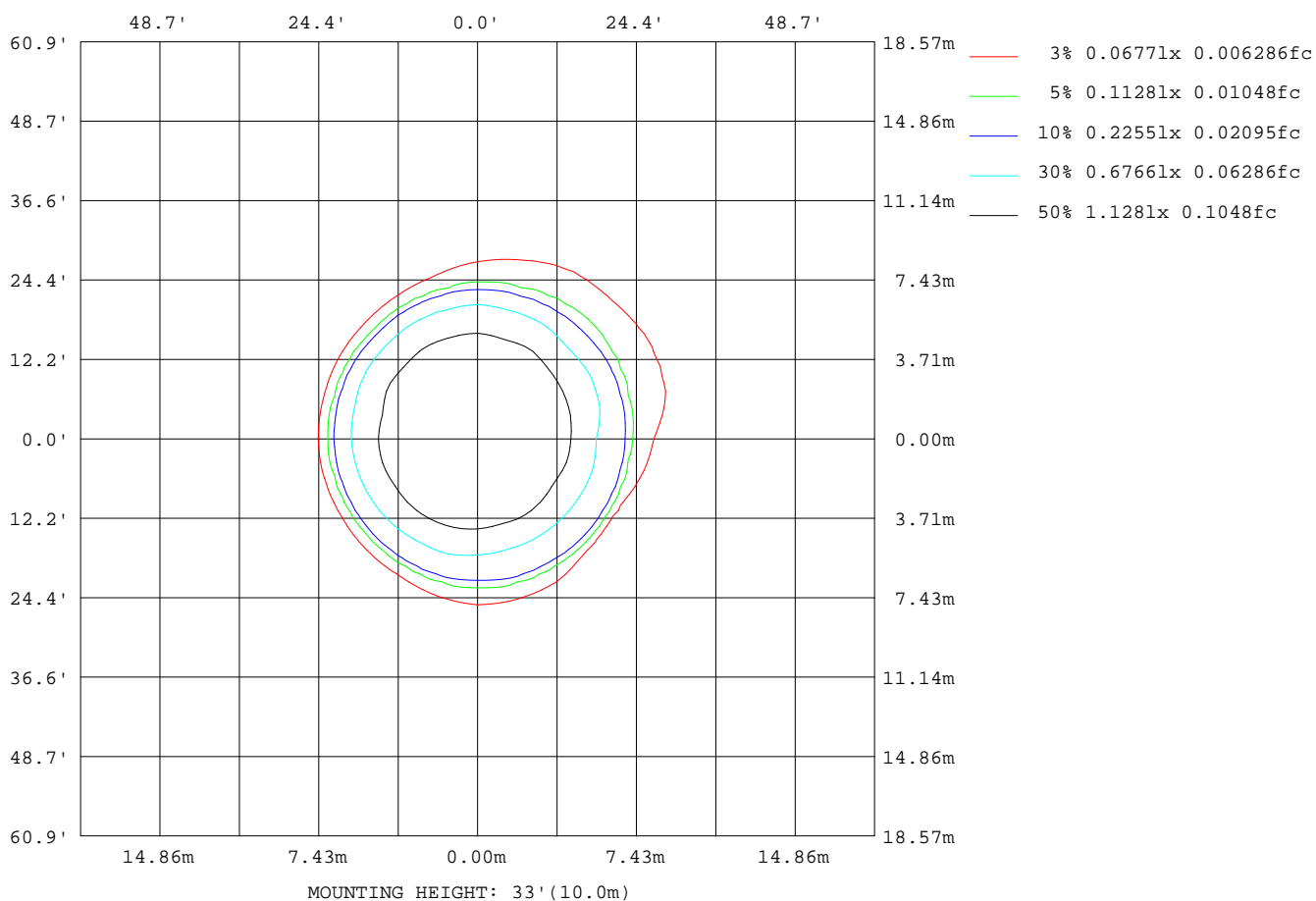
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2020-09-18

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**ISOLUX DIAGRAM**

Test:U:221.1V I:0.0492A P:5.762W PF:0.5302 Freq:49.99Hz Lamp Flux:172.083x1 lm		
NAME: CARMEL R-830-55°	TYPE:Outdoor Light	SERIAL No.:
SPEC.:3000K	DIM.: φ80mm*H105mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2020-09-18

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:5.850m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:221.1V I:0.0492A P:5.762W PF:0.5302 Freq:49.99Hz Lamp Flux:172.083x1 lm		
NAME: CARMEL R-830-55°	TYPE:Outdoor Light	SERIAL No.:
SPEC.:3000K	DIM.: φ80mm*H105mm	
MFR.: NEKO LIGHTING AG		

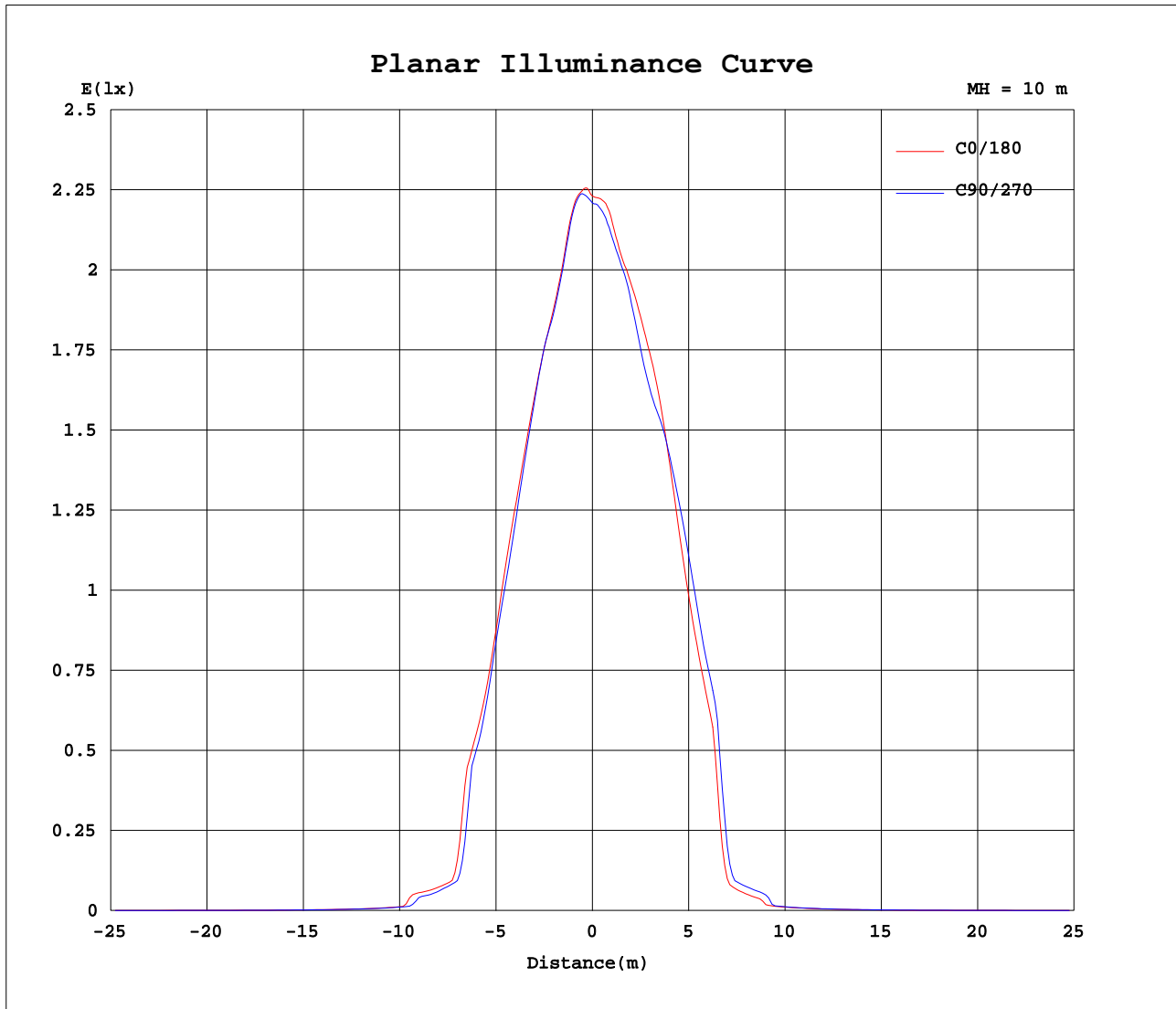
AvgL	cd/m2
L_0~180 (65) av	305
L_0~180 (75) av	231
L_0~180 (85) av	220
L_90~270 (65) av	302
L_90~270 (75) av	237
L_90~270 (85) av	227
L_45 (65) av	307
L_45 (75) av	238
L_45 (85) av	229

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2020-09-18

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
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: Jason  
Test Date: 2020-09-18

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 5.850m [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:5.850m [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:5.850m [K=1.0000]
Remarks:

```