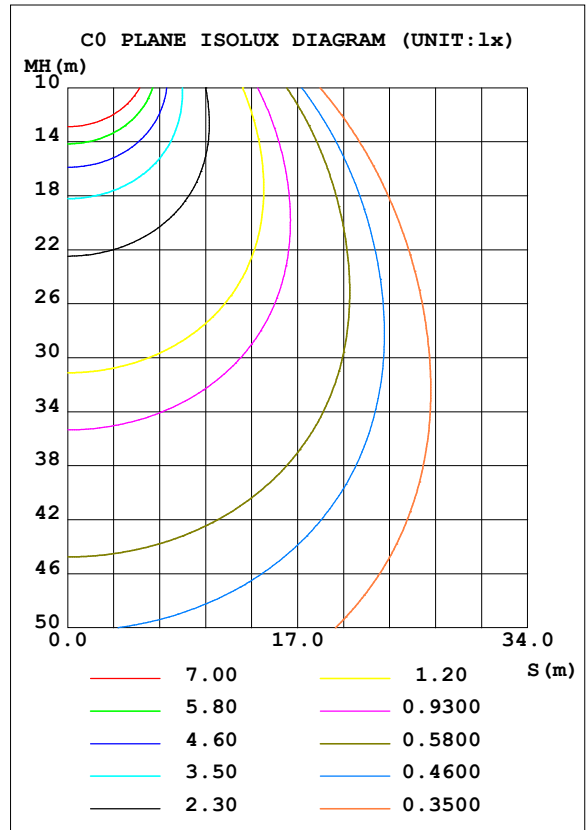
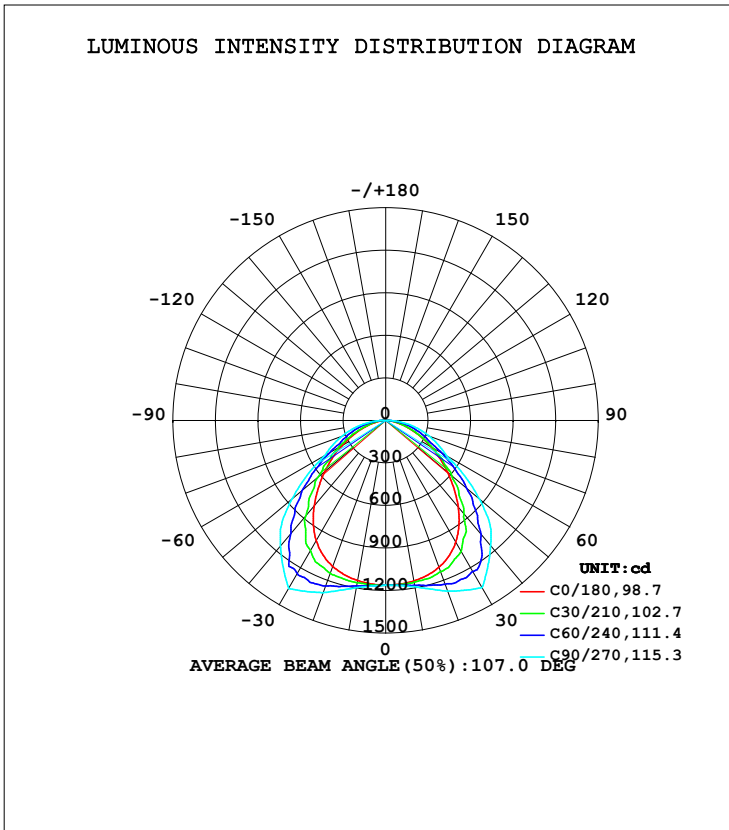


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:231.1V I:0.1165A P:25.91W PF:0.9617 Freq:50.00Hz Lamp Flux:3364.55x1 lm		
NAME: PANEL	TYPE:P17CO-27NH-0606-1442835-20160810.9	WEIGHT:1.0
SPEC.:	DIM.:	SERIAL No.:
MFR.: ERVAN	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 129.87 lm/W			
MODEL		I _{max} (cd)	1369	S/MH (C0/180)	1.24
NOMINAL POWER (W)	27	LOR (%)	100.0	S/MH (C90/270)	1.55
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	3364.6	η UP, DN (C0-180)	0.0, 49.9
NOMINAL FLUX (lm)	3364.55	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.35



H(β) Range:-90 - 90DEG
 H(β) Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:QC
 Test Date:09 October 2016

V(B) Range:-90 - 90DEG
 V(B) Interval: 2.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.500m [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	1149	1171	1191	1170	1146	1174	1197	1174	0- 10	111.4	111.4	3.31,3.31
20	1101	1182	1281	1185	1095	1193	1292	1189	10- 20	335.2	446.6	13.3,13.3
30	990.0	1132	1362	1148	979.8	1156	1369	1138	20- 30	546.2	992.8	29.5,29.5
40	796.7	957.6	1153	972.8	784.7	977.4	1155	959.2	30- 40	671.2	1664	49.5,49.5
50	571.6	674.1	863.0	665.0	561.4	667.5	863.1	673.8	40- 50	641.8	2306	68.5,68.5
60	366.5	410.4	493.0	421.2	356.7	422.5	494.9	410.0	50- 60	496.5	2802	83.3,83.3
70	193.1	217.0	329.0	222.5	185.8	223.6	330.6	217.1	60- 70	320.9	3123	92.8,92.8
80	69.70	105.8	165.1	104.2	64.71	105.2	166.5	106.2	70- 80	182.4	3306	98.2,98.2
90	1.414	1.194	1.121	1.093	0.8686	2.032	2.224	1.875	80- 90	58.97	3365	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): 1996.6 lm

%lum = 59.3%
 %lamp = 59.3%

Conical surface Flux(120deg): 2802.2 lm

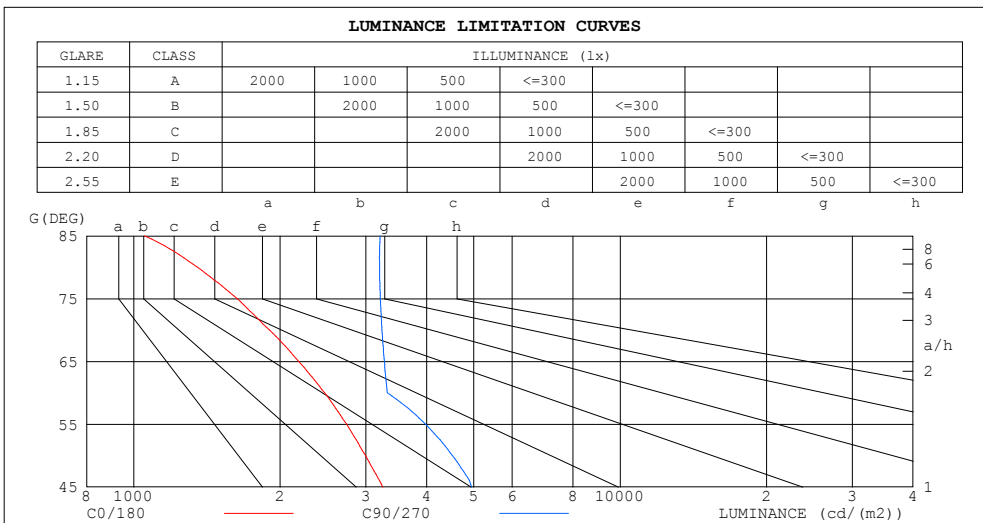
%lum = 83.3%
 %lamp = 83.3%

H(β) Range:-90 - 90DEG
 H(β) Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:QC
 Test Date:09 October 2016

V(B) Range:-90 - 90DEG
 V(B) Interval: 2.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:10.500m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:231.1V I:0.1165A P:25.91W PF:0.9617 Freq:50.00Hz Lamp Flux:3364.55x1 lm		
NAME: PANEL	TYPE:P17CO-27NH-0606-1442835-201610.9	
SPEC.:	DIM.:	SERIAL No.:
MFR.: ERVAN	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1051	3210
80	1352	3201
75	1632	3214
70	1901	3239
65	2184	3275
60	2468	3320
55	2738	3980
50	2994	4520
45	3252	4952

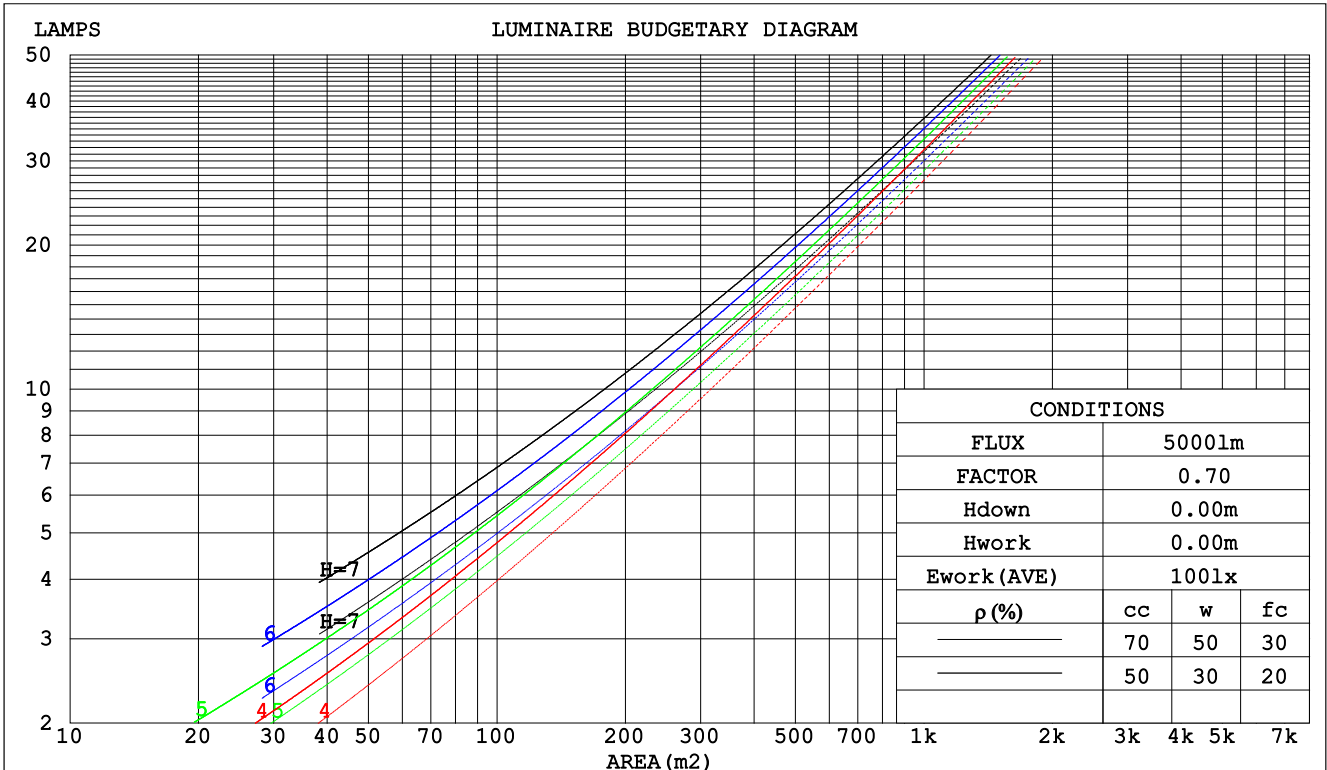
H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:09 October 2016

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.500m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:231.1V I:0.1165A P:25.91W PF:0.9617 Freq:50.00Hz Lamp Flux:3364.55x1 lm		
NAME: PANEL	TYPE:P17CO-27NH-0606-1442835-2013HT10.9	
SPEC.:	DIM.:	SERIAL No.:
MFR.: ERVAN	SUR.:	Shielding Angle:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	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	1.05	1.01	.97	1.03	.99	.96	.98	.95	.92	.94	.92	.90	.91	.89	.87	.85
2.0	.92	.86	.80	.90	.84	.79	.87	.82	.77	.83	.79	.76	.80	.77	.74	.72
3.0	.81	.74	.67	.80	.73	.67	.77	.71	.66	.74	.69	.64	.72	.67	.63	.61
4.0	.72	.64	.58	.71	.63	.57	.69	.62	.56	.66	.60	.56	.64	.59	.55	.53
5.0	.65	.56	.50	.64	.56	.50	.62	.55	.49	.60	.53	.48	.58	.52	.48	.46
6.0	.59	.50	.44	.58	.49	.43	.56	.49	.43	.54	.48	.43	.53	.47	.42	.40
7.0	.53	.45	.39	.52	.44	.39	.51	.44	.38	.49	.43	.38	.48	.42	.38	.36
8.0	.49	.40	.35	.48	.40	.34	.47	.39	.34	.45	.39	.34	.44	.38	.34	.32
9.0	.45	.37	.31	.44	.36	.31	.43	.36	.31	.42	.35	.31	.41	.35	.31	.29
10.0	.41	.33	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.28	.26



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:09 October 2016

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.500m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:231.1V I:0.1165A P:25.91W PF:0.9617 Freq:50.00Hz Lamp Flux:3364.55x1 lm		
NAME: PANEL	TYPE:P17CO-27NH-0606-1442835-WEIGHT:10.9	WOLIGHT:10.9
SPEC.:	DIM.:	SERIAL No.:
MFR.: ERVAN	SUR.:	Shielding Angle:

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	.292	.166	.053	.285	.163	.052	.272	.156	.050	.260	.150	.048	.248	.144	.046	
2.0	.276	.151	.046	.270	.149	.046	.258	.144	.045	.248	.139	.043	.238	.134	.042	
3.0	.257	.137	.041	.251	.135	.041	.241	.131	.040	.232	.127	.039	.223	.124	.038	
4.0	.239	.124	.036	.234	.122	.036	.225	.119	.036	.216	.116	.035	.209	.113	.035	
5.0	.222	.113	.033	.218	.112	.033	.210	.109	.032	.202	.107	.032	.195	.104	.031	
6.0	.207	.104	.030	.203	.103	.030	.196	.100	.029	.189	.098	.029	.183	.096	.029	
7.0	.193	.096	.027	.190	.095	.027	.183	.093	.027	.177	.091	.026	.172	.089	.026	
8.0	.181	.088	.025	.178	.088	.025	.172	.086	.025	.167	.085	.024	.162	.083	.024	
9.0	.170	.082	.023	.168	.082	.023	.162	.080	.023	.158	.079	.023	.153	.078	.022	
10.0	.160	.077	.021	.158	.076	.021	.153	.075	.021	.149	.074	.021	.145	.073	.021	

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	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.170	.132	.100	.146	.114	.086	.100	.079	.060	.058	.046	.035	.018	.015	.012	
3.0	.162	.114	.076	.139	.099	.066	.095	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.140	.082	.040	.120	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.133	.075	.034	.115	.065	.030	.079	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.127	.069	.029	.109	.060	.026	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.022	.072	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:09 October 2016

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.500m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:231.1V I:0.1165A P:25.91W PF:0.9617 Freq:50.00Hz Lamp Flux:3364.55x1 lm										
NAME: PANEL					TYPE:P17CO-27NH-0606-1442835-20160110.9					
SPEC.:					DIM.:			SERIAL No.:		
MFR.: ERVAN					SUR.:			Shielding Angle:		
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	11.4	12.9	11.7	13.1	13.3	13.3	14.8	13.6	15.0	15.2
3H	12.4	13.7	12.7	13.9	14.2	14.7	16.0	15.0	16.3	16.5
4H	12.7	14.0	13.0	14.2	14.5	15.3	16.6	15.7	16.9	17.1
6H	12.9	14.1	13.2	14.3	14.6	15.9	17.1	16.2	17.4	17.7
8H	12.9	14.1	13.2	14.4	14.6	16.1	17.3	16.5	17.6	17.9
12H	12.9	14.0	13.3	14.3	14.6	16.3	17.4	16.7	17.7	18.0
4H 2H	12.0	13.3	12.3	13.5	13.8	13.6	14.8	13.9	15.1	15.3
3H	13.1	14.2	13.4	14.5	14.8	15.1	16.2	15.4	16.5	16.8
4H	13.5	14.5	13.9	14.8	15.2	15.9	16.9	16.3	17.3	17.6
6H	13.8	14.7	14.2	15.0	15.4	16.7	17.6	17.1	17.9	18.3
8H	13.8	14.7	14.3	15.1	15.4	17.0	17.8	17.4	18.2	18.6
12H	13.9	14.6	14.3	15.0	15.4	17.2	18.0	17.7	18.4	18.8
8H 4H	13.8	14.7	14.2	15.0	15.4	16.0	16.9	16.4	17.2	17.6
6H	14.2	14.9	14.7	15.3	15.8	16.9	17.6	17.4	18.0	18.5
8H	14.4	15.0	14.8	15.4	15.9	17.4	18.0	17.8	18.4	18.8
12H	14.5	15.0	14.9	15.4	15.9	17.7	18.3	18.2	18.7	19.2
12H 4H	13.9	14.6	14.3	15.0	15.4	16.0	16.8	16.4	17.2	17.6
6H	14.4	15.0	14.8	15.4	15.9	16.9	17.6	17.4	18.0	18.4
8H	14.6	15.1	15.0	15.5	16.0	17.4	17.9	17.9	18.4	18.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.3					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.3 / - 0.5					+ 0.6 / - 0.5				

CIE Pub.117, 3365 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 4.2)

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:09 October 2016

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.500m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:231.1V I:0.1165A P:25.91W PF:0.9617 Freq:50.00Hz Lamp Flux:3364.55x1 lm		
NAME: PANEL	TYPE:P17CO-27NH-0606-1442835-201608110.9	WEIGHT:1.0
SPEC.:	DIM.:	SERIAL No.:
MFR.: ERVAN	SUR.:	Shielding Angle:

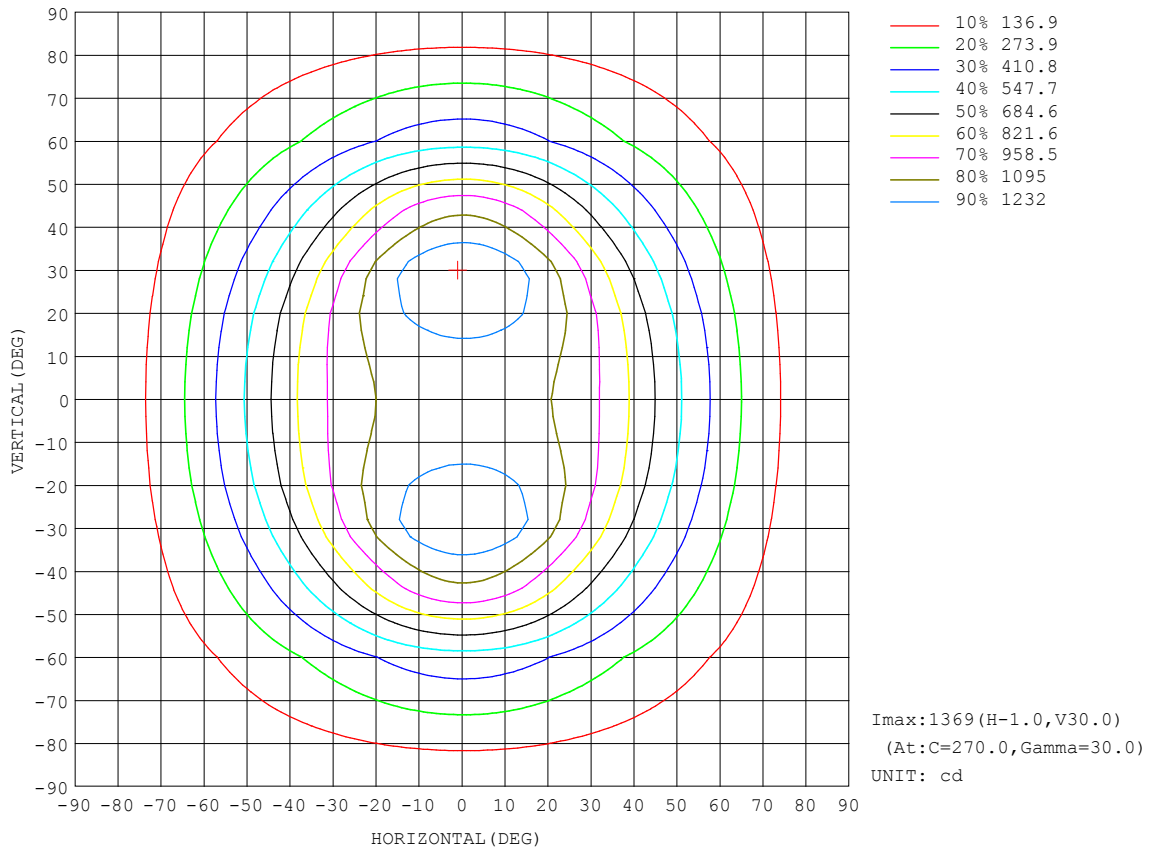
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	60	49	42	59	49	42	58	48	42	36
0.80	70	59	52	69	59	52	68	58	52	45
1.00	79	68	61	78	68	61	75	69	61	54
1.25	86	76	69	84	75	69	82	74	68	61
1.50	90	81	75	89	80	74	86	79	73	66
2.00	97	89	83	95	88	82	92	86	81	73
2.50	100	93	88	98	92	87	95	89	85	77
3.00	104	97	92	101	96	91	97	93	89	81
4.00	107	102	97	105	100	96	101	97	93	85
5.00	109	105	101	107	103	99	103	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:09 October 2016

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.500m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:231.1V I:0.1165A P:25.91W PF:0.9617 Freq:50.00Hz Lamp Flux:3364.55x1 lm		
NAME: PANEL	TYPE:P17CO-27NH-0606-1442835-201310.9	
SPEC.:	DIM.:	SERIAL No.:
MFR.: ERVAN	SUR.:	Shielding Angle:

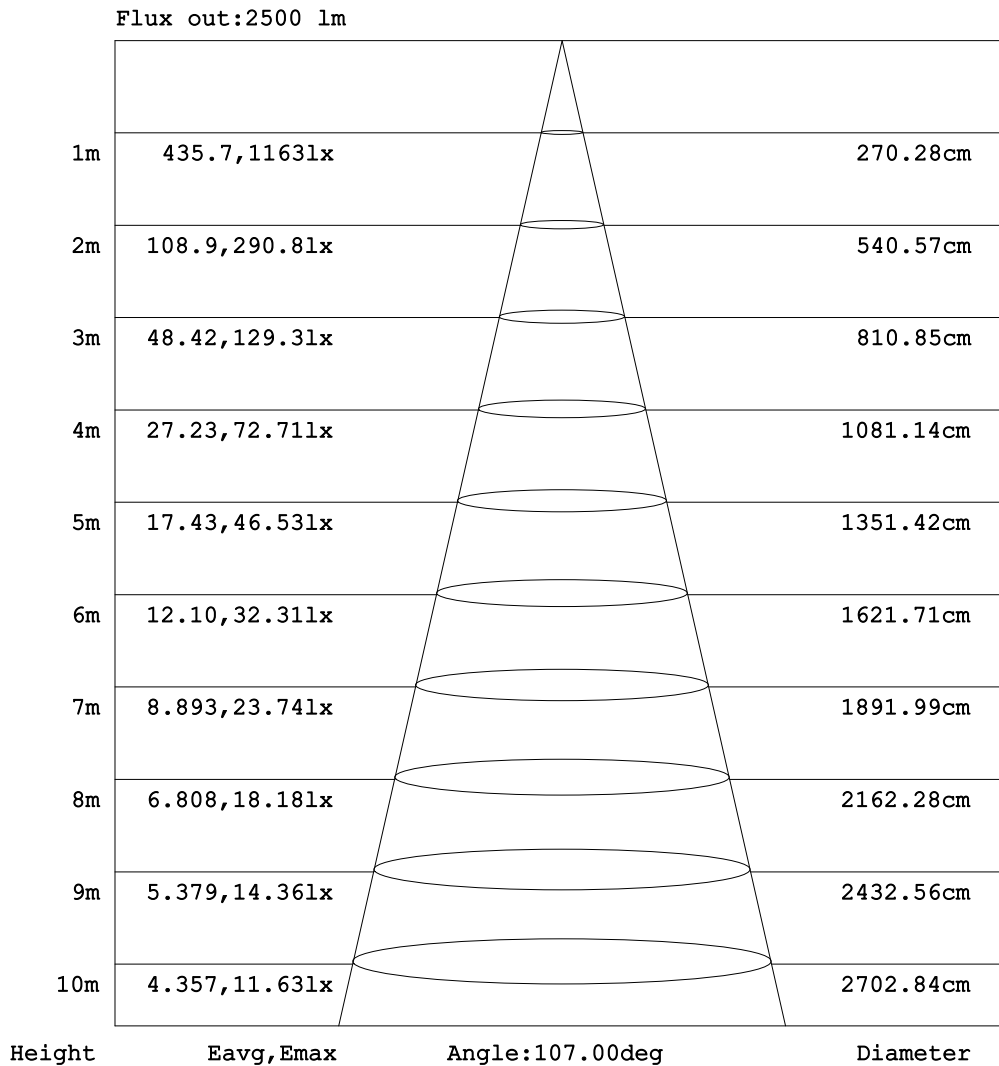


H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:09 October 2016

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.500m [K=1.0000]
Remarks:

AAI Figure

Test:U:231.1V I:0.1165A P:25.91W PF:0.9617 Freq:50.00Hz Lamp Flux:3364.55x1 lm		
NAME: PANEL	TYPE:P17CO-27NH-0606-1442835-20160110.9	
SPEC.:	DIM.:	SERIAL No.:
MFR.: ERVAN	SUR.:	Shielding Angle:



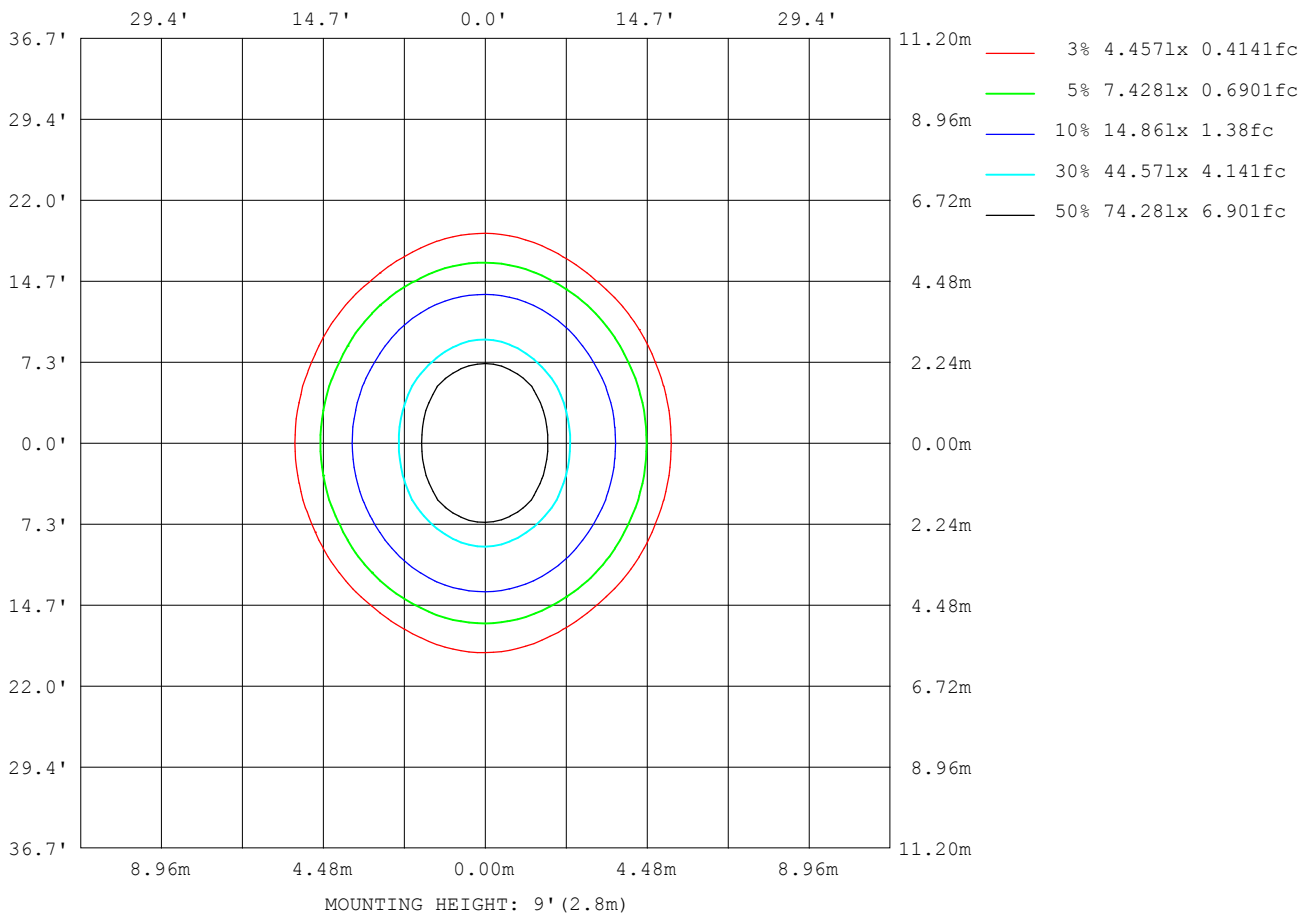
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:09 October 2016

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.500m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:231.1V I:0.1165A P:25.91W PF:0.9617 Freq:50.00Hz Lamp Flux:3364.55x1 lm		
NAME: PANEL	TYPE:P17CO-27NH-0606-1442835-2013HTL0.9	
SPEC.:	DIM.:	SERIAL No.:
MFR.: ERVAN	SUR.:	Shielding Angle:



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:09 October 2016

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.500m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:231.1V I:0.1165A P:25.91W PF:0.9617 Freq:50.00Hz Lamp Flux:3364.55x1 lm		
NAME: PANEL	TYPE:P17CO-27NH-0606-1442835-2013	WOLIGHT:0.9
SPEC.:	DIM.:	SERIAL No.:
MFR.: ERVAN	SUR.:	Shielding Angle:

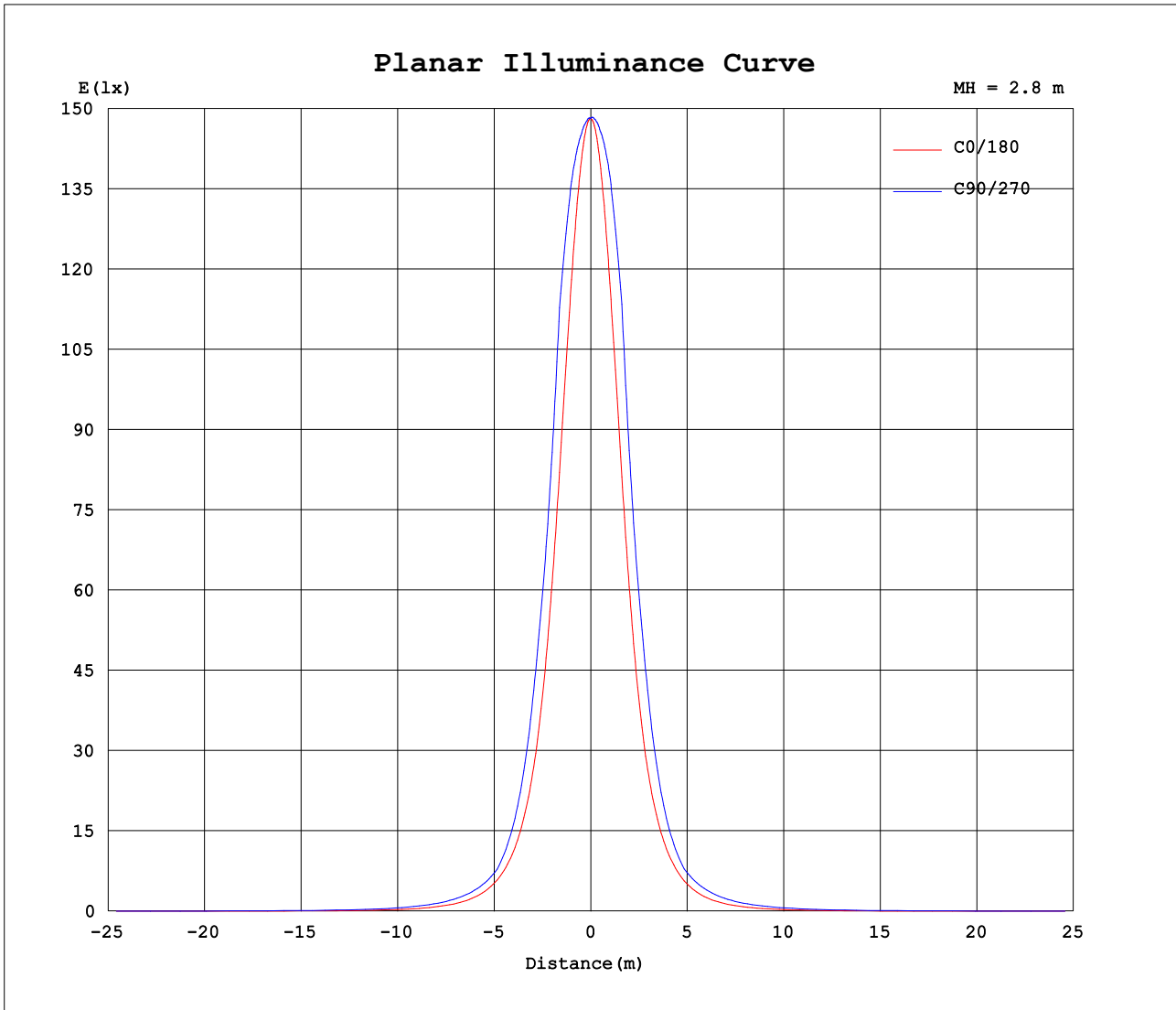
AvgL	cd/m2
L_0~180 (65) av	2149
L_0~180 (75) av	1592
L_0~180 (85) av	970
L_90~270 (65) av	3281
L_90~270 (75) av	3224
L_90~270 (85) av	3234
L_45 (65) av	2428
L_45 (75) av	2091
L_45 (85) av	2039

Standard: GB/T 29293-2012

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:09 October 2016

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.500m [K=1.0000]
Remarks:

Planar Illuminance Curve



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:QC
Test Date:09 October 2016

V(B) Range:-90 - 90DEG
V(B) Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:10.500m [K=1.0000]
Remarks:

