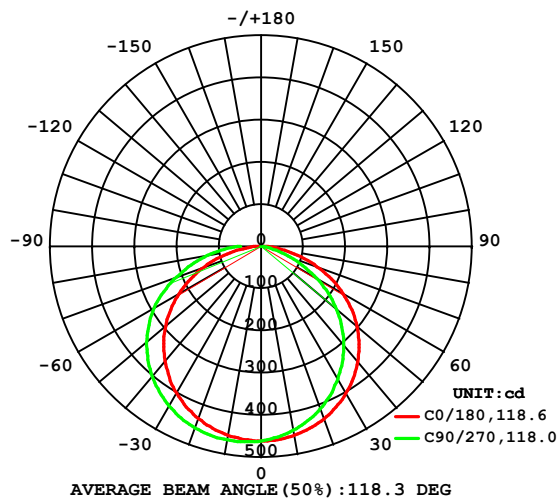


## LUMINAIRE PHOTOMETRIC TEST REPORT

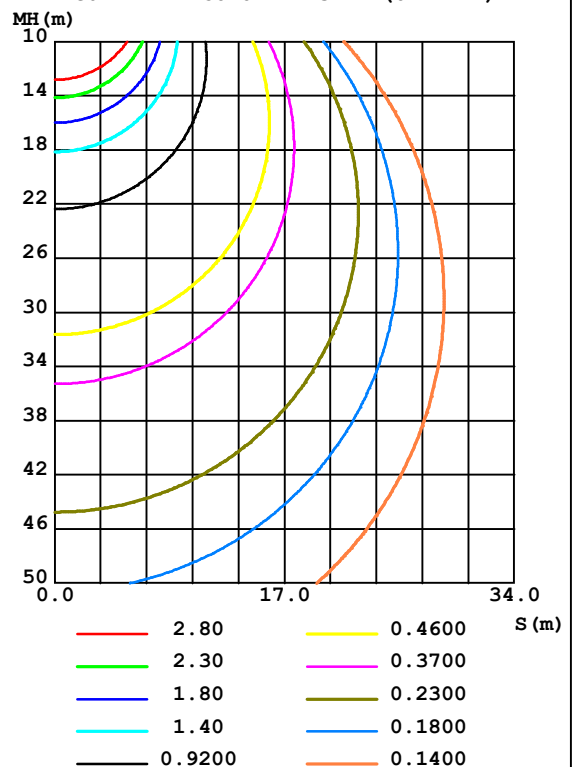
Test:U:24.00V I:0.7068A P:16.96W PF:1.000 Freq:49.99Hz Lamp Flux:1413.16x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 83.32 lm/W			
MODEL	2835L-24V-G02-50	I <sub>max</sub> (cd)	466.1	S/MH (C0/180)	1.30
NOMINAL POWER(W)		LOR(%)	100.0	S/MH (C90/270)	1.41
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	1413.2	η UP, DN (C0-180)	0.0, 44.0
NOMINAL FLUX(lm)	1413.16	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 56.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down (%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2018-08-15

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 9.690m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	454.9	442.6	454.5	466.0					0- 10	43.71	43.71	3.09, 3.09
20	435.6	410.6	434.7	458.1					10- 20	126.0	169.7	12, 12
30	403.0	363.8	402.0	436.7					20- 30	193.6	363.3	25.7, 25.7
40	356.9	305.4	354.7	402.0					30- 40	237.6	600.9	42.5, 42.5
50	297.4	234.5	295.9	354.1					40- 50	251.9	852.8	60.3, 60.3
60	225.2	152.7	224.8	293.1					50- 60	233.2	1086	76.9, 76.9
70	141.8	68.00	143.2	213.5					60- 70	181.5	1268	89.7, 89.7
80	57.07	5.744	59.28	130.5					70- 80	106.7	1374	97.2, 97.2
90	2.356	1.258	2.570	49.34					80- 90	38.91	1413	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): 727.07 lm

%lum = 51.5%

%lamp = 51.5%

Conical surface Flux(120deg): 1086.1 lm

%lum = 76.9%

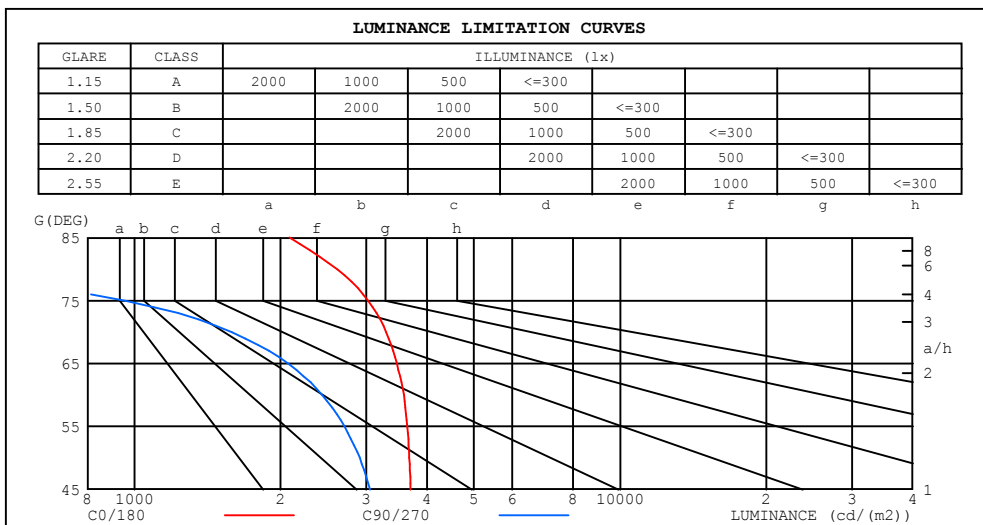
%lamp = 76.9%

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2018-08-15

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
 Humidity: 65.0%  
 Test Distance: 9.690m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:24.00V I:0.7068A P:16.96W PF:1.000 Freq:49.99Hz Lamp Flux:1413.16x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2082	151
80	2614	264
75	3027	959
70	3298	1584
65	3467	2069
60	3583	2434
55	3646	2705
50	3681	2906
45	3698	3059

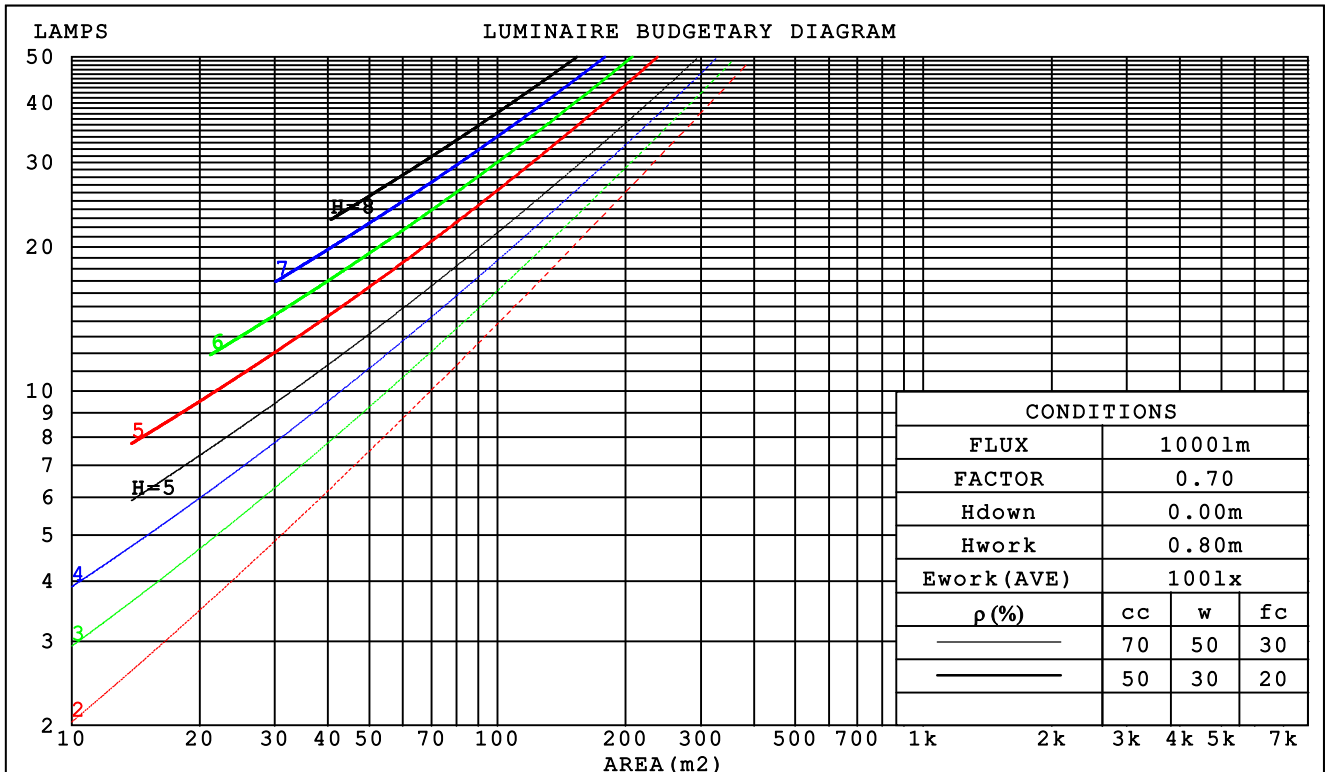
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2018-08-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 9.690m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.7068A P:16.96W PF:1.000 Freq:49.99Hz Lamp Flux:1413.16x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	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			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	1.03	.99	.95	1.01	.97	.93	.97	.93	.90	.93	.90	.87	.89	.87	.85	.83
2.0	.89	.82	.76	.88	.81	.75	.84	.78	.74	.81	.76	.72	.78	.74	.70	.68
3.0	.78	.70	.63	.77	.69	.63	.74	.67	.61	.71	.65	.60	.68	.63	.59	.57
4.0	.69	.60	.53	.68	.59	.53	.65	.58	.52	.63	.56	.51	.61	.55	.51	.48
5.0	.62	.52	.46	.60	.52	.45	.58	.51	.45	.56	.50	.44	.54	.49	.44	.42
6.0	.55	.46	.40	.54	.46	.39	.53	.45	.39	.51	.44	.39	.49	.43	.38	.36
7.0	.50	.41	.35	.49	.41	.35	.48	.40	.34	.46	.39	.34	.45	.39	.34	.32
8.0	.46	.37	.31	.45	.37	.31	.44	.36	.31	.42	.35	.31	.41	.35	.30	.28
9.0	.42	.33	.28	.41	.33	.28	.40	.33	.28	.39	.32	.27	.38	.32	.27	.25
10.0	.39	.31	.25	.38	.30	.25	.37	.30	.25	.36	.30	.25	.35	.29	.25	.23



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2018-08-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
 Humidity: 65.0%  
 Test Distance: 9.690m [K=1.0000]  
 Remarks:

### WEC AND CCEC

Test:U:24.00V I:0.7068A P:16.96W PF:1.000 Freq:49.99Hz Lamp Flux:1413.16x1 lm								
NAME:			TYPE:			WEIGHT:		
SPEC.:			DIM.:			SERIAL No.:		
MFR.:			SUR.:			Shielding Angle:		

$\rho_{cc}$	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	.324	.184	.058	.317	.181	.057	.304	.174	.056	.291	.168	.054	.280	.162	.052		
2.0	.301	.165	.051	.295	.162	.050	.283	.157	.049	.272	.153	.048	.262	.148	.047		
3.0	.277	.147	.044	.271	.145	.044	.261	.141	.043	.251	.138	.042	.242	.134	.042		
4.0	.255	.132	.039	.250	.131	.039	.241	.128	.038	.232	.125	.038	.224	.122	.037		
5.0	.235	.120	.035	.230	.118	.034	.222	.116	.034	.215	.113	.034	.207	.111	.033		
6.0	.217	.109	.031	.213	.108	.031	.206	.106	.031	.199	.104	.030	.193	.102	.030		
7.0	.202	.100	.028	.198	.099	.028	.192	.097	.028	.186	.095	.028	.180	.094	.027		
8.0	.188	.092	.026	.185	.091	.026	.179	.090	.026	.174	.088	.025	.169	.087	.025		
9.0	.176	.085	.024	.173	.085	.024	.168	.083	.024	.163	.082	.023	.159	.081	.023		
10.0	.165	.079	.022	.163	.079	.022	.158	.078	.022	.154	.076	.022	.150	.075	.022		

$\rho_{cc}$	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	.181	.156	.133	.155	.134	.115	.106	.092	.079	.061	.053	.046	.020	.017	.015	
2.0	.173	.132	.097	.149	.114	.084	.102	.079	.058	.059	.046	.034	.019	.015	.011	
3.0	.166	.114	.073	.142	.099	.064	.098	.069	.045	.056	.040	.026	.018	.013	.009	
4.0	.158	.101	.057	.136	.087	.050	.093	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.151	.091	.047	.129	.079	.040	.089	.055	.029	.052	.032	.017	.017	.011	.006	
6.0	.143	.082	.039	.123	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.137	.076	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.130	.070	.028	.112	.061	.025	.077	.042	.018	.045	.025	.010	.015	.008	.003	
9.0	.124	.065	.025	.107	.056	.022	.074	.040	.015	.043	.023	.009	.014	.008	.003	
10.0	.118	.061	.022	.102	.053	.019	.071	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2018-08-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
 Humidity: 65.0%  
 Test Distance: 9.690m [K=1.0000]  
 Remarks:

### UGR(Unified Glare Rating) Table

Test:U:24.00V I:0.7068A P:16.96W PF:1.000 Freq:49.99Hz Lamp Flux:1413.16x1 lm										
NAME:					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					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	15.9	17.4	16.1	17.6	17.8	14.6	16.1	14.8	16.3	16.5
3H	17.4	18.9	17.7	19.1	19.3	15.4	16.9	15.7	17.1	17.4
4H	18.0	19.4	18.3	19.6	19.9	15.6	17.0	15.9	17.2	17.5
6H	18.4	19.7	18.8	20.0	20.3	15.6	16.8	15.9	17.1	17.4
8H	18.6	19.8	18.9	20.1	20.4	15.5	16.8	15.9	17.0	17.3
12H	18.6	19.8	19.0	20.1	20.4	15.5	16.7	15.8	17.0	17.3
4H 2H	16.3	17.6	16.6	17.9	18.1	15.2	16.6	15.6	16.9	17.1
3H	18.0	19.2	18.3	19.5	19.8	16.3	17.5	16.7	17.8	18.1
4H	18.7	19.8	19.1	20.1	20.4	16.5	17.6	16.9	18.0	18.3
6H	19.2	20.2	19.6	20.5	20.9	16.6	17.5	17.0	17.9	18.3
8H	19.4	20.3	19.8	20.7	21.1	16.5	17.4	16.9	17.8	18.2
12H	19.5	20.3	19.9	20.7	21.1	16.5	17.3	16.9	17.7	18.1
8H 4H	18.8	19.7	19.2	20.0	20.4	16.8	17.7	17.2	18.1	18.5
6H	19.4	20.1	19.8	20.6	21.0	16.9	17.7	17.3	18.1	18.5
8H	19.6	20.3	20.1	20.7	21.2	16.9	17.6	17.4	18.0	18.4
12H	19.8	20.4	20.3	20.8	21.3	16.9	17.5	17.4	17.9	18.4
12H 4H	18.7	19.6	19.2	20.0	20.4	16.8	17.7	17.2	18.0	18.4
6H	19.4	20.1	19.8	20.5	20.9	16.9	17.6	17.4	18.0	18.5
8H	19.6	20.2	20.1	20.7	21.1	17.0	17.5	17.4	18.0	18.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.3 / - 0.4				
1.5H	+ 0.2 / - 0.2					+ 0.3 / - 0.6				
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.7				

CIE Pub.117, 1413 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 1.2$ )

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2018-08-15

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:9.690m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.7068A P:16.96W PF:1.000 Freq:49.99Hz Lamp Flux:1413.16x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

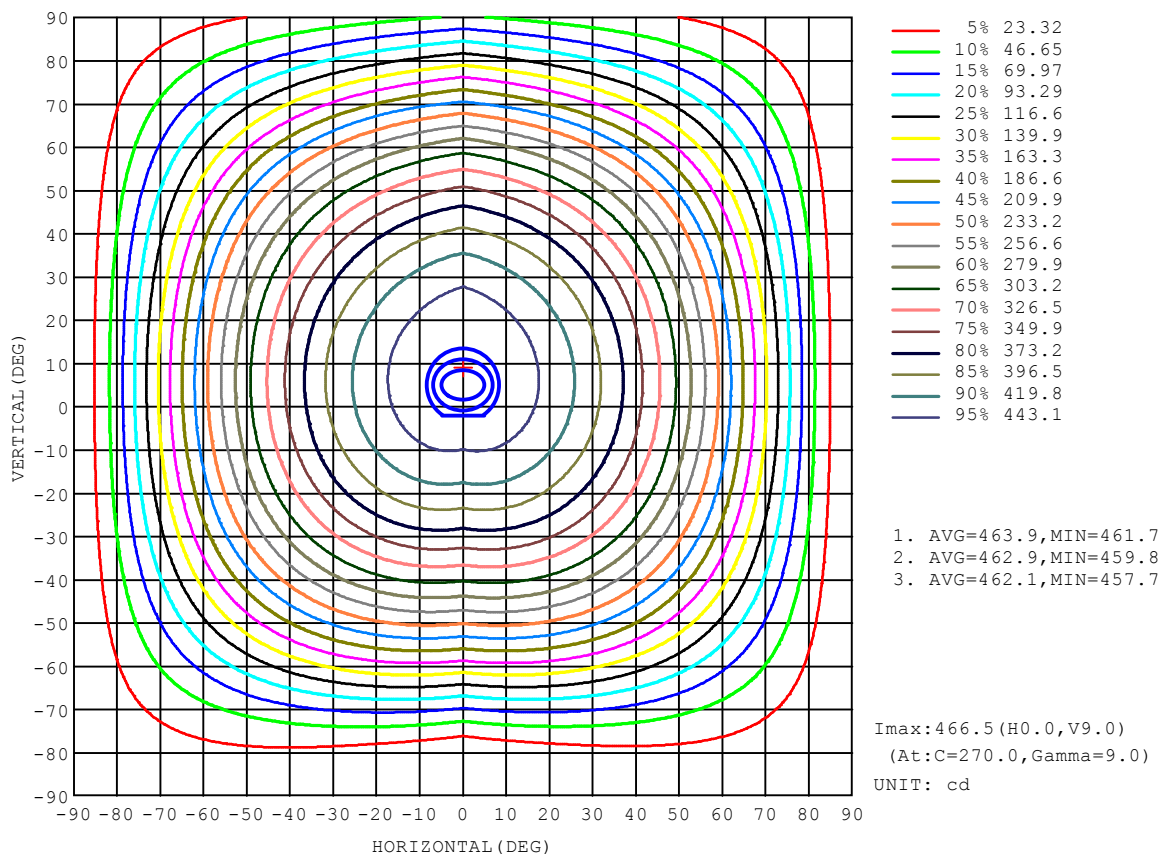
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	56	44	37	56	44	37	54	44	37	31
0.80	66	54	47	65	54	47	63	53	46	39
1.00	75	63	56	74	63	56	71	64	55	48
1.25	82	71	64	80	70	63	78	69	63	55
1.50	87	77	70	85	76	69	82	74	68	60
2.00	94	85	78	92	84	78	89	82	76	68
2.50	98	90	84	96	89	83	92	86	81	72
3.00	101	94	89	99	93	87	95	90	85	77
4.00	106	100	95	103	98	93	99	94	91	82
5.00	108	103	99	106	101	97	101	97	94	85
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2018-08-15

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
 Humidity: 65.0%  
 Test Distance: 9.690m [K=1.0000]  
 Remarks:

## ISOCANDELA DIAGRAM

Test:U:24.00V I:0.7068A P:16.96W PF:1.000 Freq:49.99Hz Lamp Flux:1413.16x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



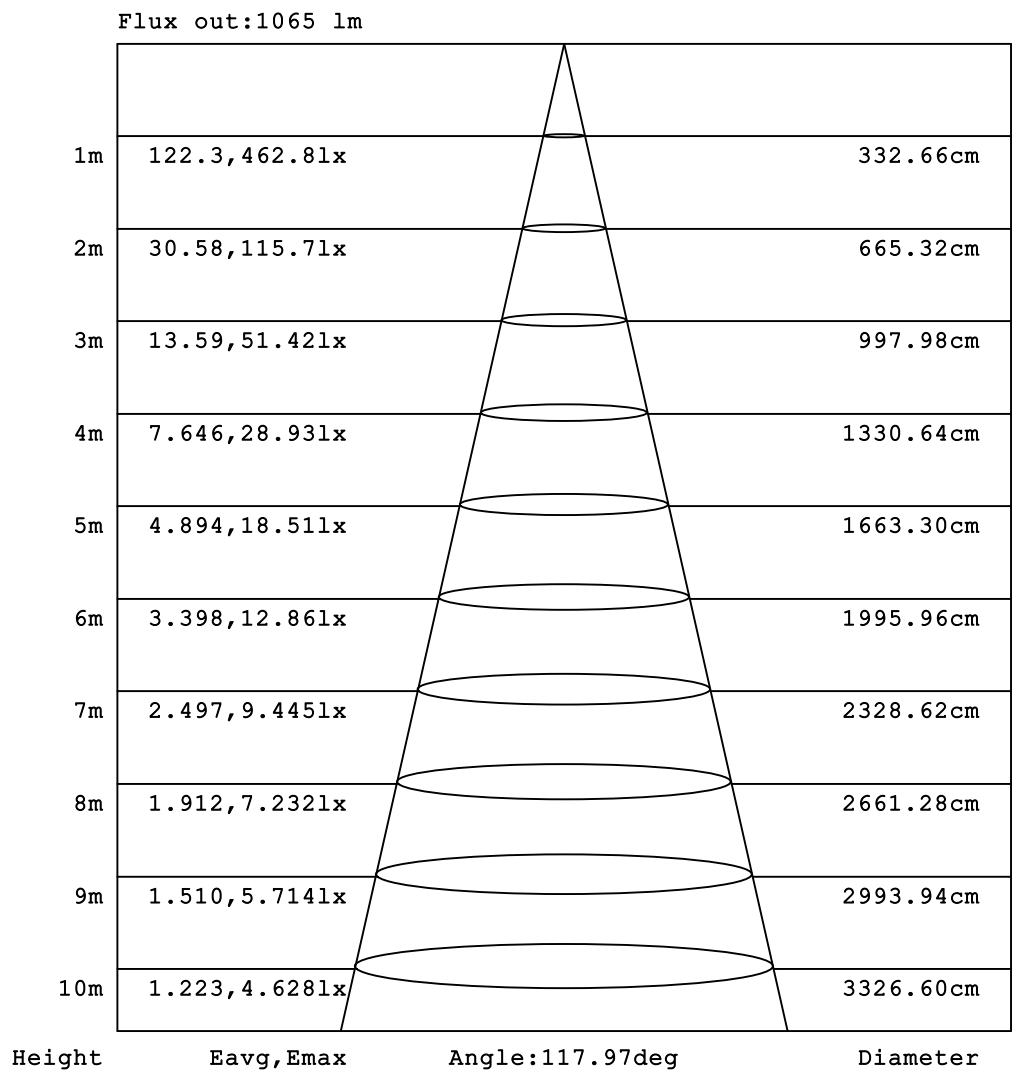
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2018-08-15

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 9.690m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:24.00V I:0.7068A P:16.96W PF:1.000 Freq:49.99Hz Lamp Flux:1413.16x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



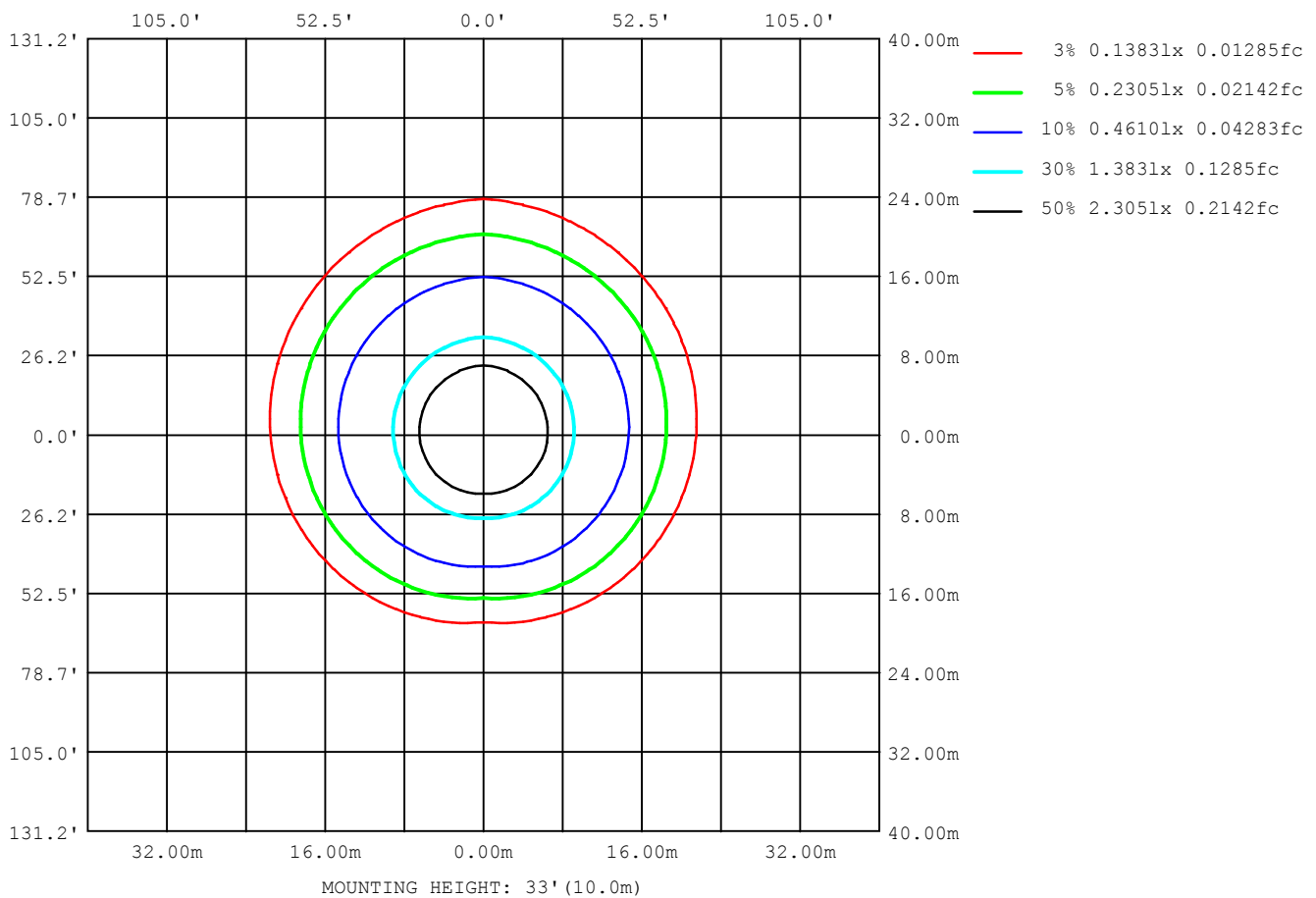
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2018-08-15

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:9.690m [K=1.0000]  
Remarks:

# ISOLUX DIAGRAM

Test:U:24.00V I:0.7068A P:16.96W PF:1.000 Freq:49.99Hz Lamp Flux:1413.16x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2018-08-15

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:9.690m [K=1.0000]  
Remarks:

## LED Avg.L Report

Test:U:24.00V I:0.7068A P:16.96W PF:1.000 Freq:49.99Hz Lamp Flux:1413.16x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

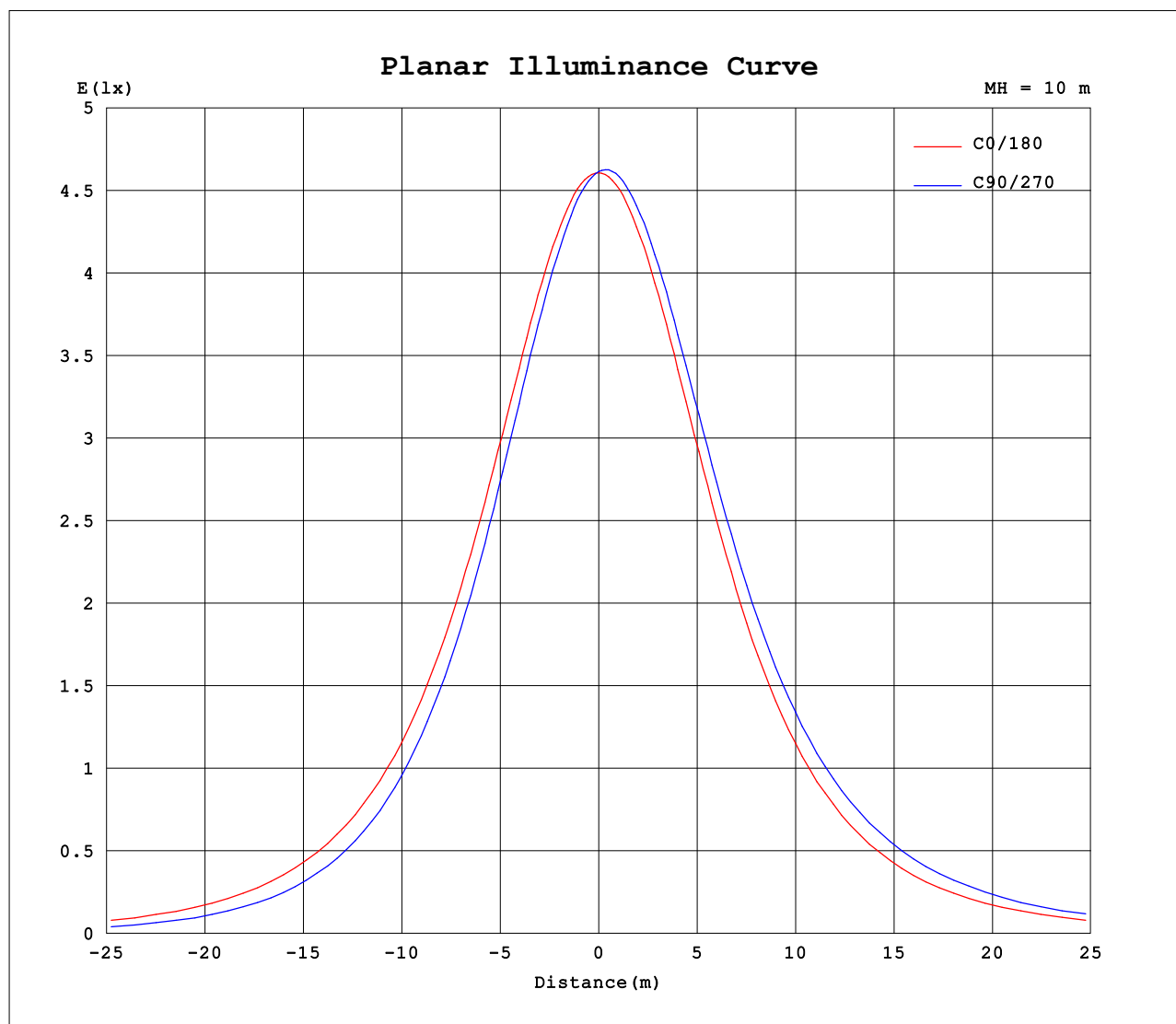
AvgL	cd/m2
L_0~180 (65) av	3478
L_0~180 (75) av	3062
L_0~180 (85) av	2158
L_90~270 (65) av	3437
L_90~270 (75) av	3132
L_90~270 (85) av	4135
L_45 (65) av	3453
L_45 (75) av	3108
L_45 (85) av	3399

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2018-08-15

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:9.690m [K=1.0000]  
 Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2018-08-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 9.690m [K=1.0000]  
Remarks:

