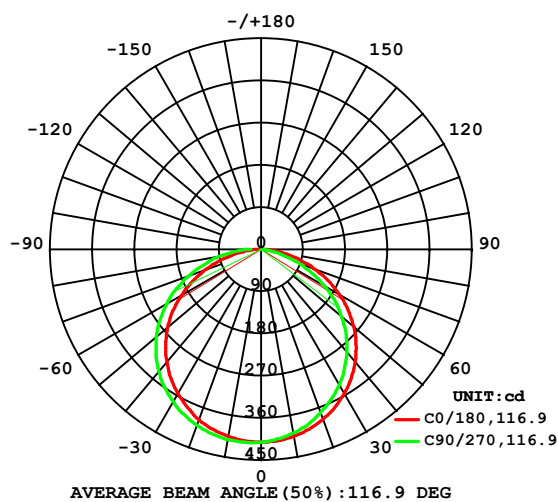


## LUMINAIRE PHOTOMETRIC TEST REPORT

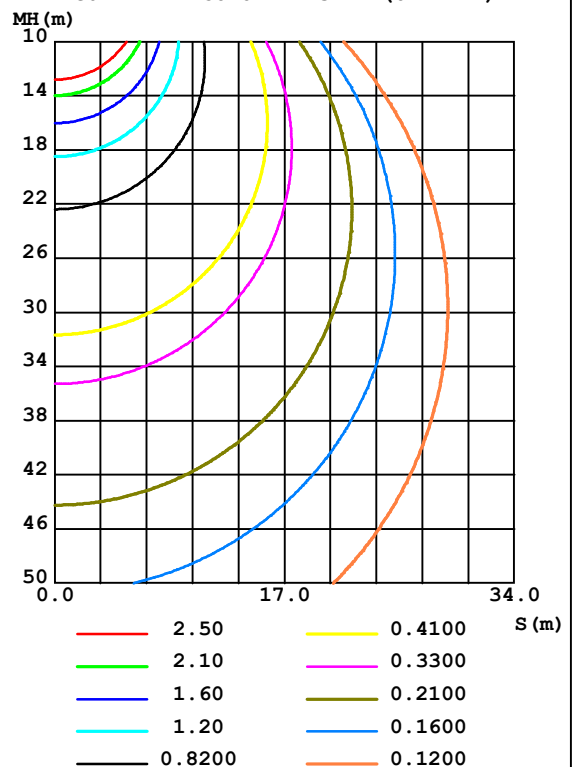
Test:U:12.00V I:1.239A P:14.87W PF:1.000 Freq:49.99Hz Lamp Flux:1235.78x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 83.12 lm/W
MODEL	2835-12V-G02-40	I <sub>max</sub> (cd)	413.2	S/MH (C0/180)	1.29	
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.36	
RATED VOLTAGE (V)	12	TOTAL FLUX (lm)	1235.8	η UP, DN (C0-180)	0.0, 46.0	
NOMINAL FLUX (lm)	1235.78	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 54.0	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25	
TEST VOLTAGE (V)	12	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:

$\gamma$	C0	C90	C180	C270					$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	405.0	398.1	405.4	411.9					0- 10	38.97	38.97	3.15,3.15
20	386.4	371.2	387.3	400.0					10- 20	112.2	151.2	12.2,12.2
30	355.6	334.0	355.5	376.0					20- 30	171.6	322.7	26.1,26.1
40	313.0	285.3	313.7	339.8					30- 40	209.9	532.7	43.1,43.1
50	258.6	225.7	260.5	292.2					40- 50	221.7	754.4	61,61
60	193.0	156.5	196.8	232.9					50- 60	203.9	958.2	77.5,77.5
70	120.3	82.90	124.8	163.6					60- 70	157.6	1116	90.3,90.3
80	48.68	18.31	52.90	90.11					70- 80	91.74	1208	97.7,97.7
90	1.449	1.032	1.940	22.36					80- 90	28.21	1236	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): 643.86 lm

%lum = 52.1%

%lamp = 52.1%

Conical surface Flux(120deg): 958.24 lm

%lum = 77.5%

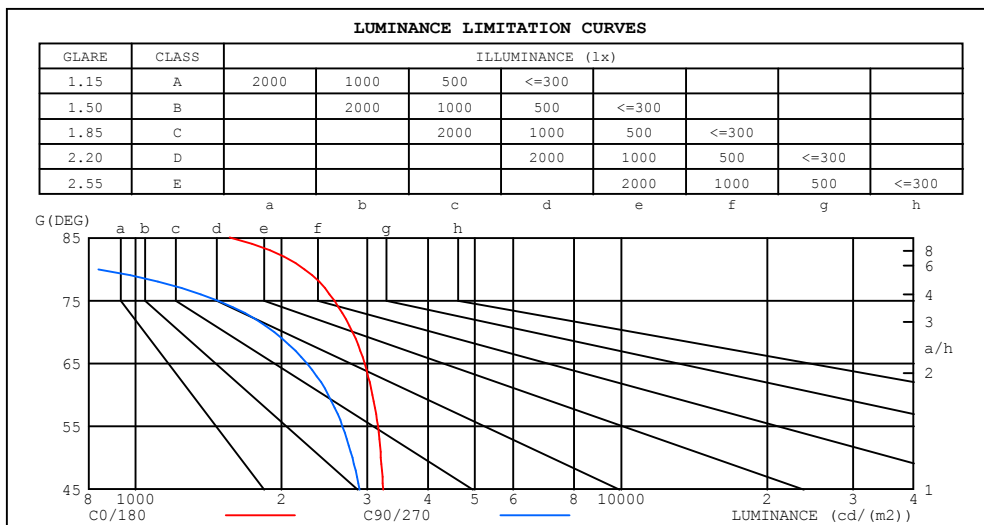
%lamp = 77.5%

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:

## LUMINANCE LIMITATION CURVES

Test:U:12.00V I:1.239A P:14.87W PF:1.000 Freq:49.99Hz Lamp Flux:1235.78x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



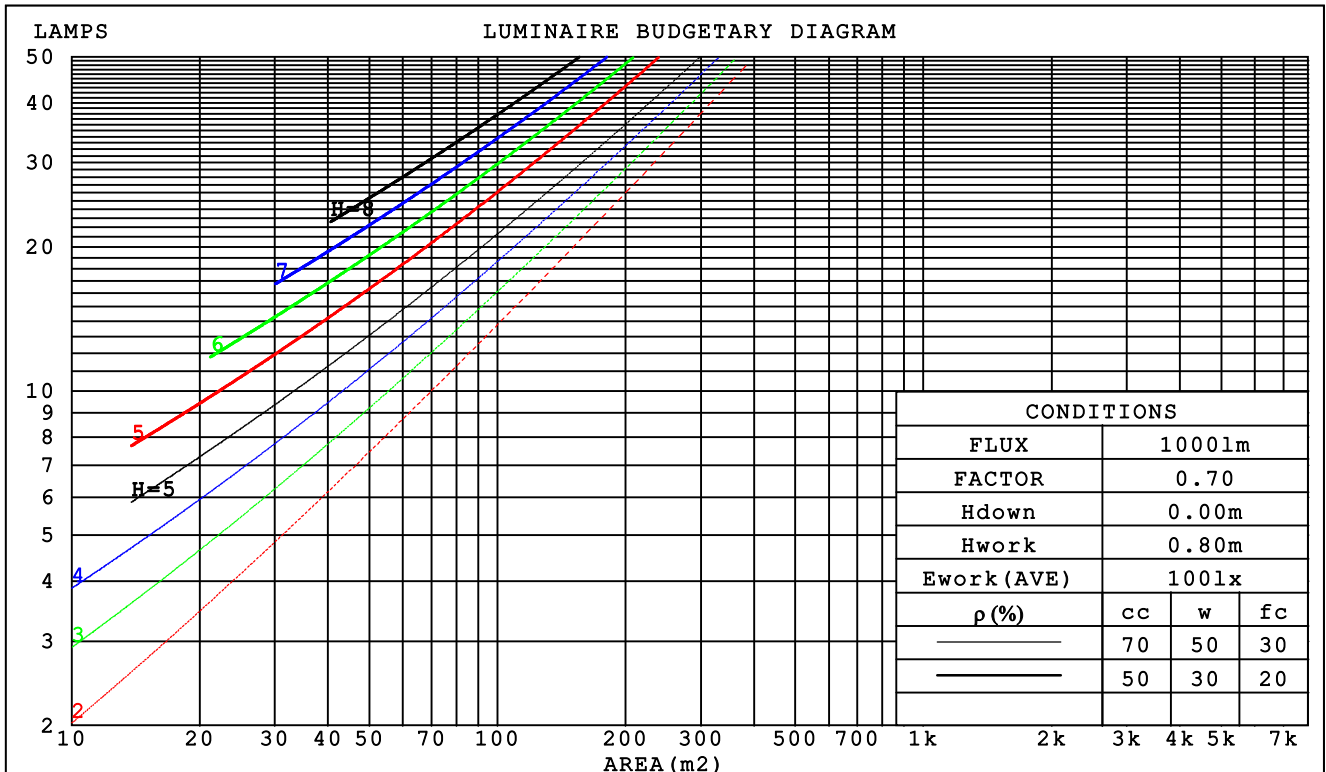
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2018-08-15

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:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:12.00V I:1.239A P:14.87W PF:1.000 Freq:49.99Hz Lamp Flux:1235.78x1 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	.94	.91	.93	.90	.88	.89	.87	.85	.83
2.0	.90	.83	.77	.88	.81	.76	.84	.79	.74	.81	.76	.72	.78	.74	.71	.69
3.0	.79	.70	.64	.77	.69	.63	.74	.67	.62	.71	.66	.61	.69	.64	.60	.57
4.0	.69	.61	.54	.68	.60	.53	.66	.58	.53	.63	.57	.52	.61	.56	.51	.49
5.0	.62	.53	.46	.61	.52	.46	.59	.51	.45	.57	.50	.45	.55	.49	.44	.42
6.0	.56	.47	.40	.55	.46	.40	.53	.45	.39	.51	.44	.39	.50	.44	.39	.37
7.0	.50	.41	.35	.50	.41	.35	.48	.40	.35	.47	.40	.35	.45	.39	.34	.32
8.0	.46	.37	.31	.45	.37	.31	.44	.36	.31	.43	.36	.31	.41	.35	.31	.29
9.0	.42	.34	.28	.42	.34	.28	.40	.33	.28	.39	.33	.28	.38	.32	.28	.26
10.0	.39	.31	.25	.38	.31	.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:12.00V I:1.239A P:14.87W PF:1.000 Freq:49.99Hz Lamp Flux:1235.78x1 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	.318	.181	.057	.311	.177	.056	.298	.171	.055	.285	.165	.053	.274	.159	.051	
2.0	.298	.163	.050	.291	.161	.049	.280	.156	.048	.269	.151	.047	.259	.146	.046	
3.0	.275	.146	.044	.269	.144	.043	.259	.140	.043	.249	.136	.042	.240	.133	.041	
4.0	.253	.131	.039	.248	.130	.038	.239	.127	.038	.230	.124	.037	.222	.121	.037	
5.0	.233	.119	.034	.229	.118	.034	.221	.115	.034	.213	.113	.033	.206	.110	.033	
6.0	.216	.108	.031	.212	.107	.031	.205	.105	.031	.198	.103	.030	.192	.101	.030	
7.0	.201	.099	.028	.198	.098	.028	.191	.097	.028	.185	.095	.028	.179	.093	.027	
8.0	.188	.092	.026	.184	.091	.026	.179	.089	.025	.173	.088	.025	.168	.086	.025	
9.0	.176	.085	.024	.173	.084	.024	.168	.083	.023	.163	.082	.023	.158	.080	.023	
10.0	.165	.079	.022	.163	.078	.022	.158	.077	.022	.153	.076	.022	.149	.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	.134	.155	.134	.115	.106	.092	.080	.061	.053	.046	.020	.017	.015	
2.0	.173	.132	.097	.148	.114	.084	.102	.079	.059	.059	.046	.034	.019	.015	.011	
3.0	.165	.114	.074	.142	.099	.064	.097	.069	.045	.056	.040	.026	.018	.013	.009	
4.0	.158	.101	.058	.135	.087	.050	.093	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.129	.078	.041	.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	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.130	.070	.028	.112	.060	.025	.077	.042	.018	.045	.025	.010	.015	.008	.003	
9.0	.124	.065	.025	.106	.056	.022	.074	.039	.015	.043	.023	.009	.014	.008	.003	
10.0	.118	.060	.022	.102	.052	.019	.070	.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:12.00V I:1.239A P:14.87W PF:1.000 Freq:49.99Hz Lamp Flux:1235.78x1 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	17.5	16.2	17.7	17.9	15.2	16.8	15.5	17.0	17.2
3H	17.5	18.9	17.8	19.1	19.4	16.4	17.8	16.7	18.0	18.3
4H	18.0	19.4	18.4	19.7	19.9	16.7	18.1	17.0	18.3	18.6
6H	18.5	19.7	18.8	20.0	20.3	16.8	18.1	17.1	18.3	18.6
8H	18.6	19.8	18.9	20.1	20.4	16.8	18.0	17.1	18.3	18.6
12H	18.6	19.8	19.0	20.1	20.4	16.7	17.9	17.1	18.2	18.5
4H 2H	16.4	17.8	16.7	18.0	18.3	15.9	17.2	16.2	17.5	17.7
3H	18.1	19.3	18.5	19.6	19.9	17.2	18.4	17.5	18.7	19.0
4H	18.8	19.9	19.2	20.2	20.6	17.6	18.7	18.0	19.0	19.4
6H	19.3	20.3	19.7	20.6	21.0	17.8	18.8	18.2	19.1	19.5
8H	19.5	20.4	19.9	20.8	21.1	17.8	18.7	18.2	19.1	19.5
12H	19.6	20.4	20.0	20.8	21.2	17.8	18.6	18.2	19.0	19.4
8H 4H	18.9	19.9	19.4	20.2	20.6	17.9	18.8	18.3	19.1	19.5
6H	19.6	20.3	20.0	20.7	21.2	18.1	18.9	18.6	19.3	19.7
8H	19.8	20.5	20.2	20.9	21.3	18.2	18.8	18.6	19.3	19.7
12H	19.9	20.5	20.4	20.9	21.4	18.2	18.7	18.6	19.2	19.7
12H 4H	18.9	19.8	19.4	20.1	20.6	17.9	18.7	18.3	19.1	19.5
6H	19.6	20.2	20.0	20.7	21.1	18.2	18.8	18.6	19.3	19.7
8H	19.8	20.4	20.3	20.8	21.3	18.2	18.8	18.7	19.3	19.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.3				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.5				
2.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.5				

CIE Pub.117, 1236 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 0.7$ )

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:12.00V I:1.239A P:14.87W PF:1.000 Freq:49.99Hz Lamp Flux:1235.78x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

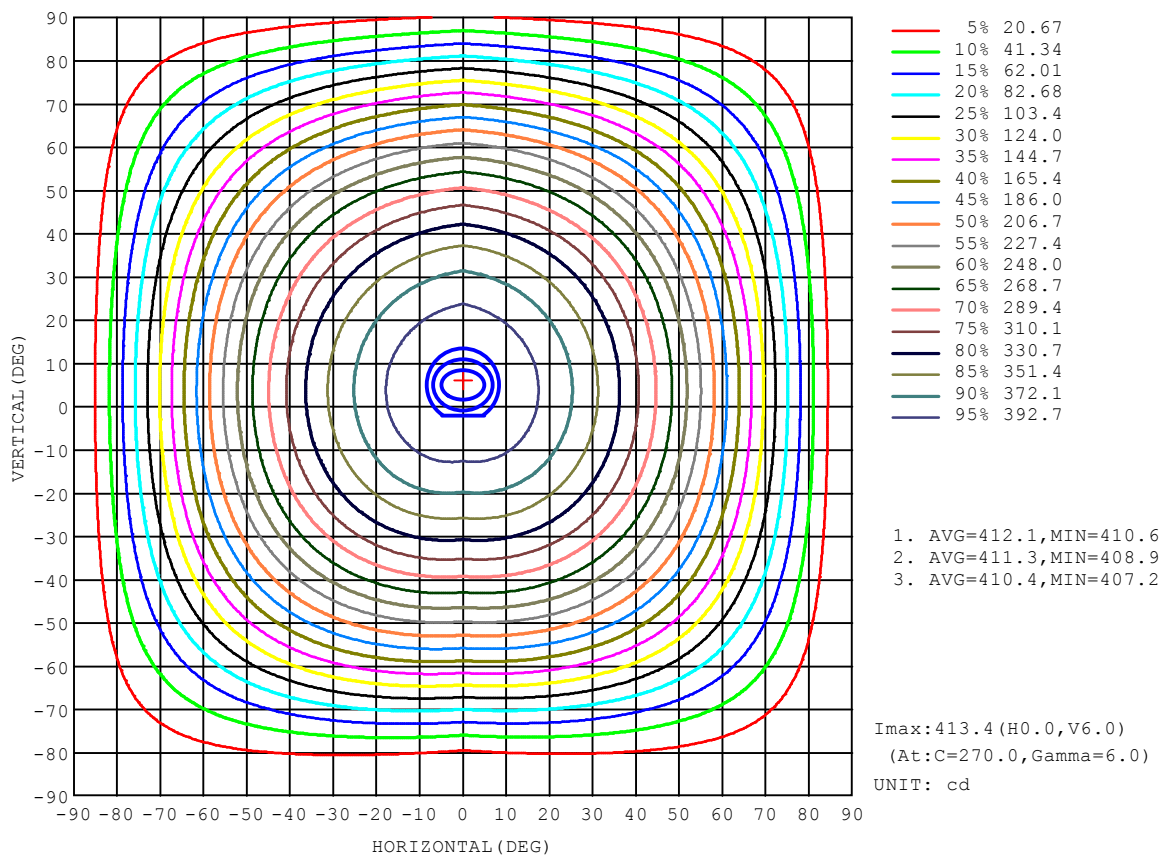
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	45	38	56	45	38	55	44	38	31
0.80	67	55	47	66	54	47	64	54	47	40
1.00	75	64	56	74	63	56	72	65	56	48
1.25	82	72	64	81	71	64	78	69	63	56
1.50	87	77	70	86	76	70	83	75	69	61
2.00	94	86	79	92	84	78	89	82	77	69
2.50	98	90	84	96	89	83	92	86	81	73
3.00	102	95	89	100	93	88	95	90	86	77
4.00	106	100	95	103	98	94	99	95	91	82
5.00	108	103	99	106	101	98	101	98	95	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:12.00V I:1.239A P:14.87W PF:1.000 Freq:49.99Hz Lamp Flux:1235.78x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

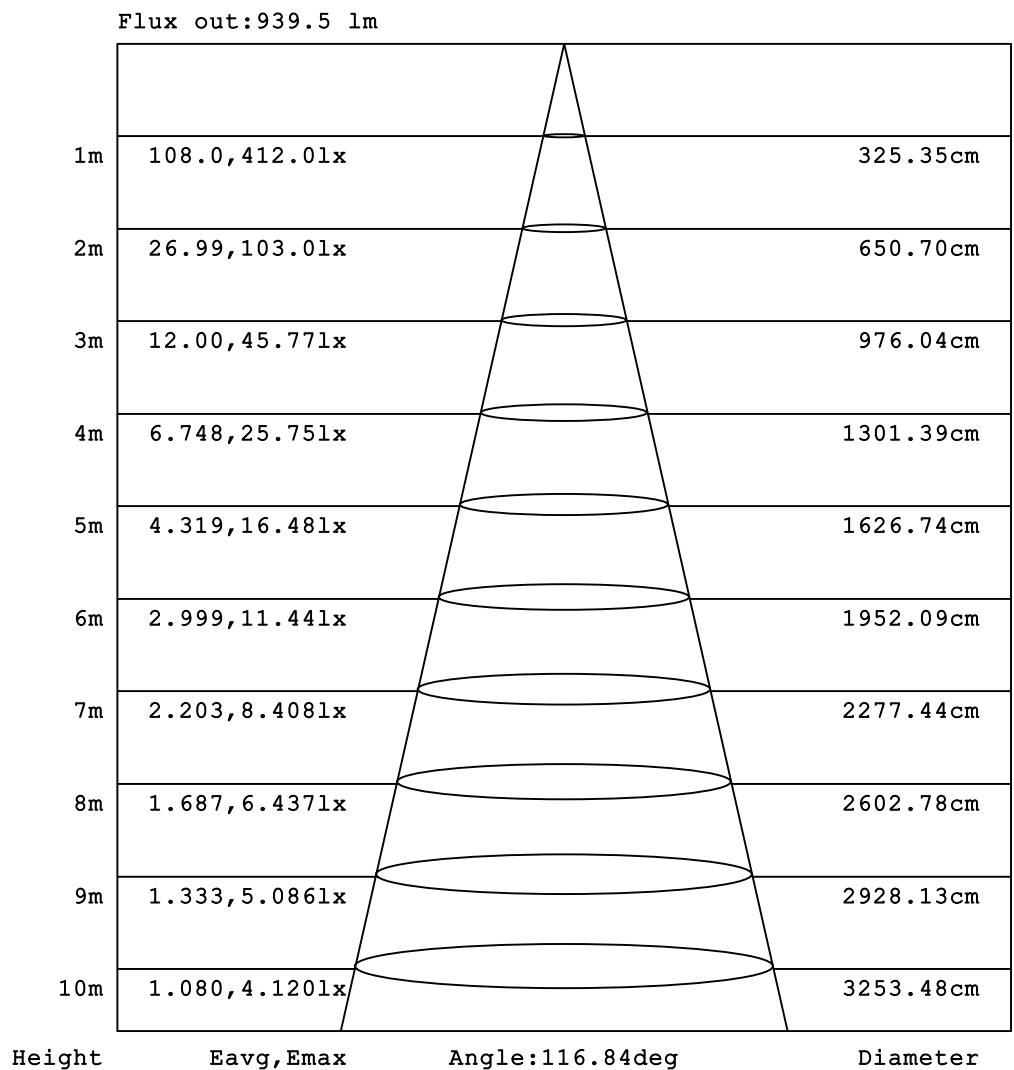


C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2018-08-15

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:12.00V I:1.239A P:14.87W PF:1.000 Freq:49.99Hz Lamp Flux:1235.78x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



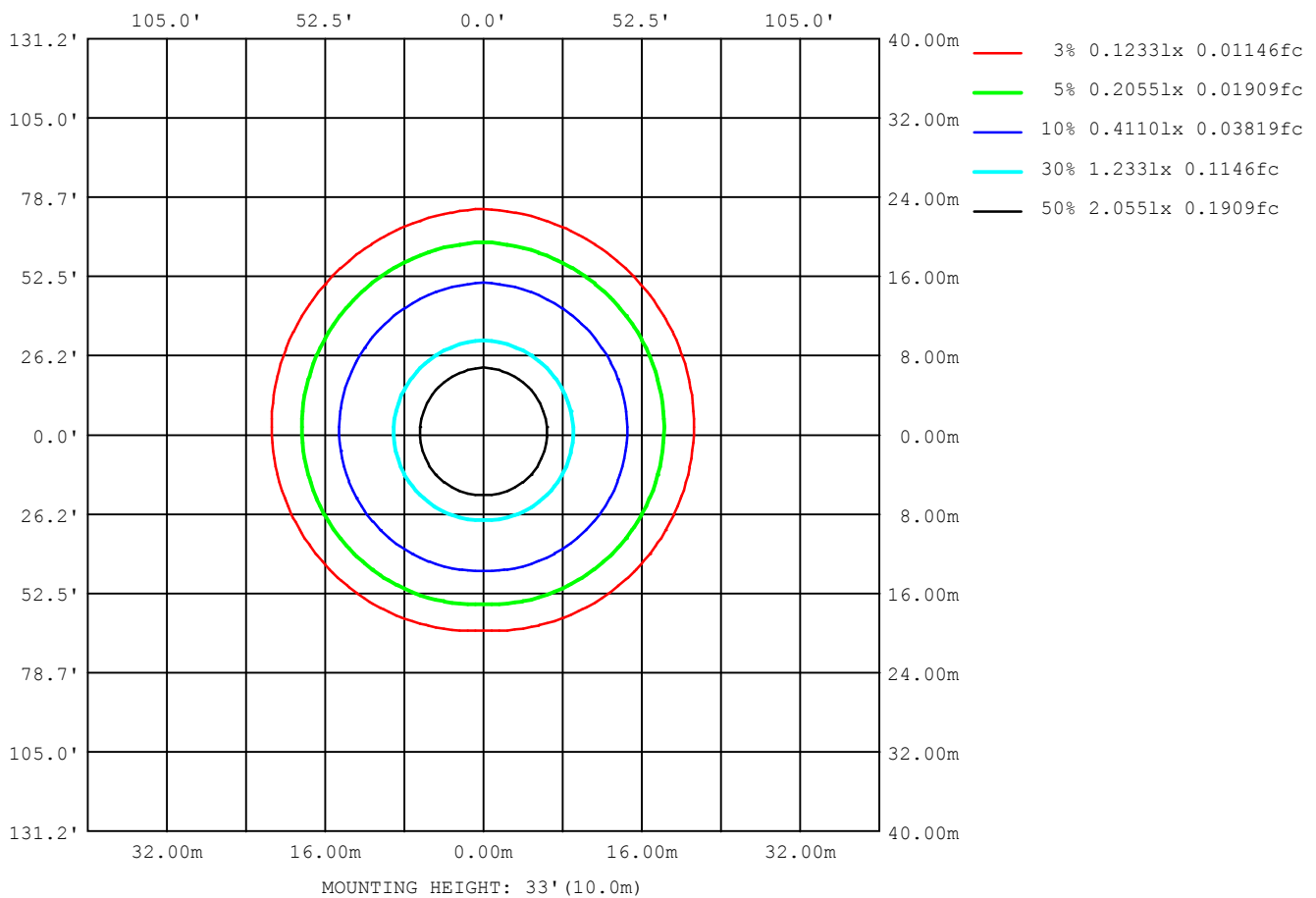
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:12.00V I:1.239A P:14.87W PF:1.000 Freq:49.99Hz Lamp Flux:1235.78x1 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:12.00V I:1.239A P:14.87W PF:1.000 Freq:49.99Hz Lamp Flux:1235.78x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

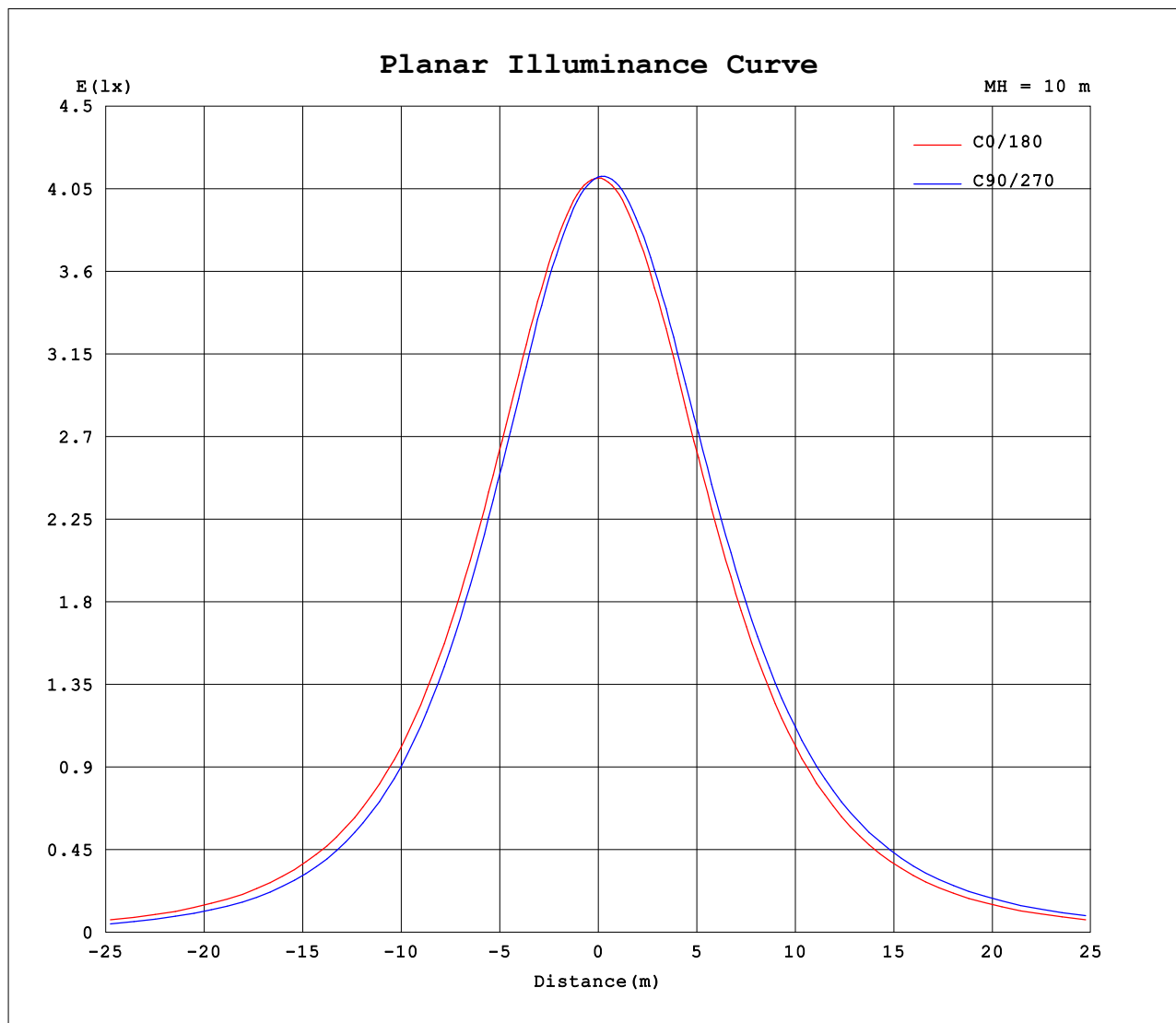
AvgL	cd/m2
L_0~180 (65) av	3003
L_0~180 (75) av	2641
L_0~180 (85) av	1737
L_90~270 (65) av	3003
L_90~270 (75) av	2690
L_90~270 (85) av	2635
L_45 (65) av	3006
L_45 (75) av	2676
L_45 (85) av	2309

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:

