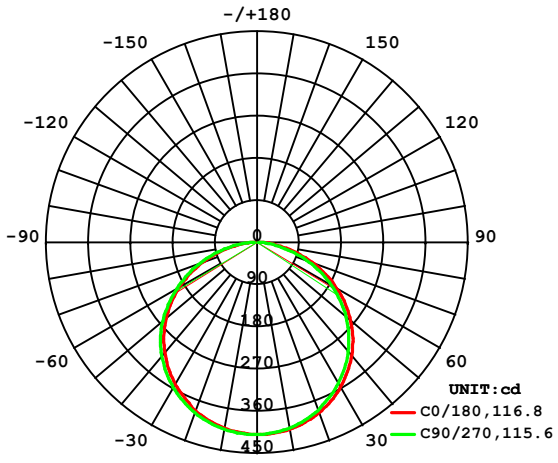
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.00V I:0.7143A P:17.14W PF:1.000 Freq:49.99Hz Lamp Flux:1221.12x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

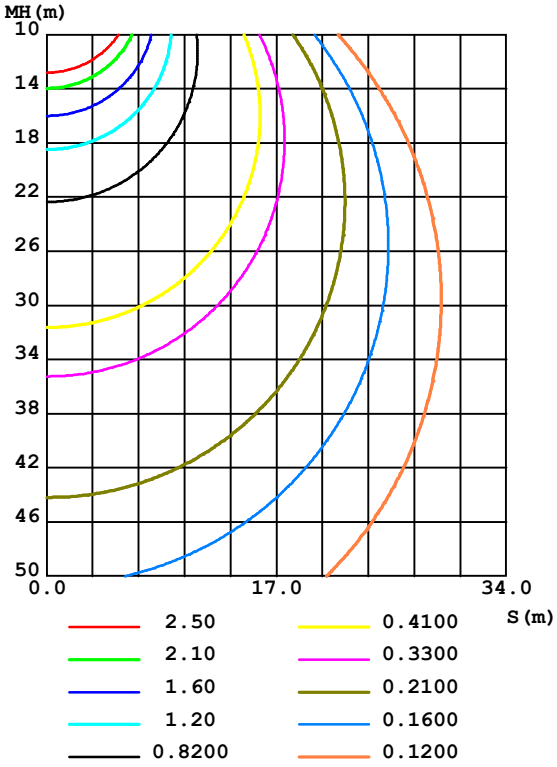
DATA OF LAMP		PHOTOMETRIC DATA Eff: 71.24 lm/W			
MODEL	2835-24V-G02-27	Imax(cd)	410.2	S/MH(C0/180)	1.27
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.30
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	1221.1	η UP,DN(C0-180)	0.0,49.4
NOMINAL FLUX(lm)	1221.12	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.6
LAMPS INSIDE	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



AVERAGE BEAM ANGLE(50%):116.2 DEG

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	404.9	402.1	402.6	405.0					0- 10	38.84	38.84	3.18,3.18
20	387.1	381.7	383.0	387.4					10- 20	111.7	150.6	12.3,12.3
30	356.8	347.3	349.8	357.7					20- 30	170.6	321.2	26.3,26.3
40	314.6	303.3	307.0	316.6					30- 40	208.3	529.5	43.4,43.4
50	261.2	248.3	253.9	262.6					40- 50	219.8	749.3	61.4,61.4
60	196.8	183.3	191.6	197.1					50- 60	201.6	950.8	77.9,77.9
70	125.0	111.9	121.6	128.2					60- 70	155.9	1107	90.6,90.6
80	51.25	40.95	49.30	58.12					70- 80	90.08	1197	98,98
90	2.411	1.901	1.939	6.230					80- 90	24.37	1221	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): 639.74 lm

%lum = 52.4%
%lamp = 52.4%

Conical surface Flux(120deg): 950.82 lm

%lum = 77.9%
%lamp = 77.9%

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Operators:
Test Date:2018-08-15

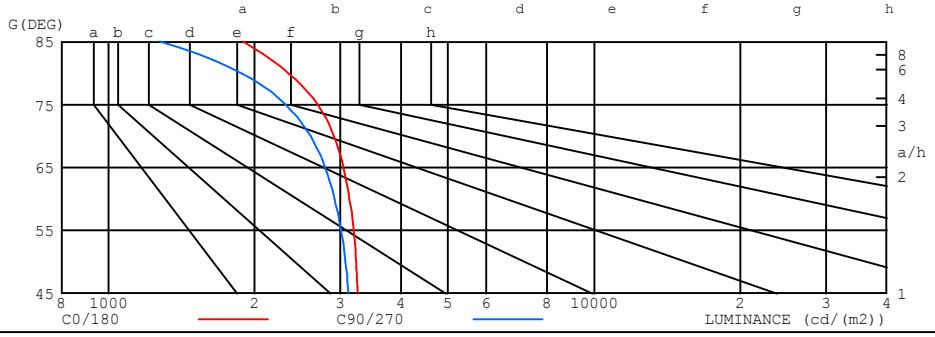
γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:9.690m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.00V I:0.7143A P:17.14W PF:1.000 Freq:49.99Hz Lamp Flux:1221.12x1 lm		
NAME:	**TYPE:**	**WEIGHT:**
SPEC.:	**DIM.:**	**SERIAL No.:**
MFR.:	**SUR.:**	**Shielding Angle:**

LUMINANCE LIMITATION CURVES

GLARE	CLASS	ILLUMINANCE (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1891	1275
80	2349	1878
75	2697	2316
70	2910	2605
65	3047	2793
60	3133	2920
55	3201	3011
50	3234	3076
45	3257	3121

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Humidity:65.0%
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Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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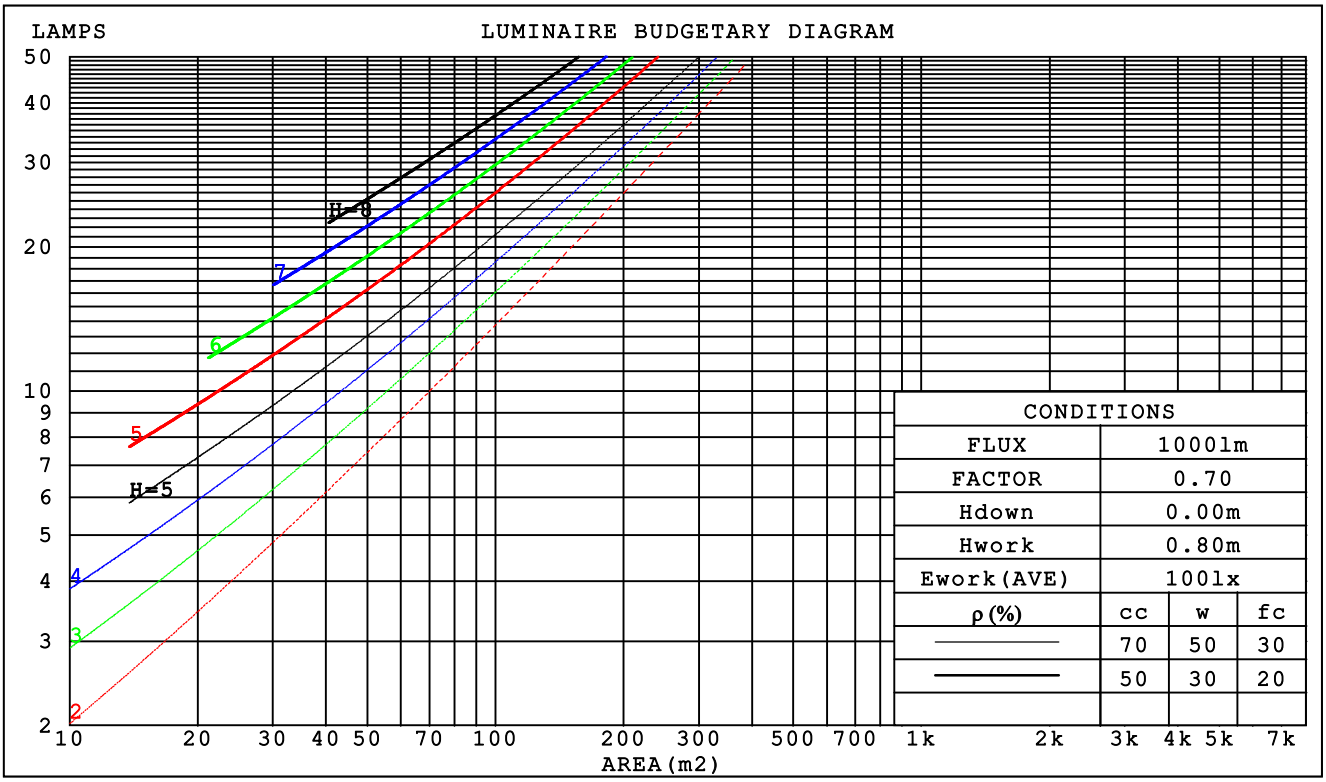
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	1.04	.99	.95	1.01	.97	.94	.97	.94	.91	.93	.90	.88	.90	.87	.85	.83
2.0	.90	.83	.77	.88	.82	.76	.85	.79	.74	.81	.77	.73	.78	.74	.71	.69
3.0	.79	.70	.64	.77	.69	.63	.74	.68	.62	.71	.66	.61	.69	.64	.60	.58
4.0	.70	.61	.54	.68	.60	.53	.66	.59	.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	.40	.51	.45	.39	.50	.44	.39	.37
7.0	.51	.42	.35	.50	.41	.35	.48	.41	.35	.47	.40	.35	.45	.39	.34	.32
8.0	.46	.37	.32	.45	.37	.31	.44	.37	.31	.43	.36	.31	.42	.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	.26	.38	.31	.26	.37	.30	.25	.36	.30	.25	.36	.30	.25	.23



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C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
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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:

WEC AND CCEC

Test:U:24.00V I:0.7143A P:17.14W PF:1.000 Freq:49.99Hz Lamp Flux:1221.12x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Wall Exitance Coeffcients(WEC)												
0.0																
1.0	.315	.179	.057	.308	.176	.056	.294	.169	.054	.282	.163	.052	.271	.157	.051	
2.0	.296	.162	.050	.290	.160	.049	.278	.155	.048	.267	.150	.047	.257	.145	.046	
3.0	.273	.146	.044	.268	.143	.043	.258	.140	.042	.248	.136	.042	.239	.132	.041	
4.0	.252	.131	.039	.247	.129	.038	.238	.126	.038	.229	.123	.037	.221	.120	.037	
5.0	.233	.119	.034	.228	.117	.034	.220	.115	.034	.213	.112	.033	.206	.110	.033	
6.0	.216	.108	.031	.212	.107	.031	.205	.105	.030	.198	.103	.030	.191	.101	.030	
7.0	.201	.099	.028	.197	.098	.028	.191	.096	.028	.185	.095	.028	.179	.093	.027	
8.0	.187	.091	.026	.184	.091	.026	.178	.089	.025	.173	.088	.025	.168	.086	.025	
9.0	.175	.085	.024	.173	.084	.024	.167	.083	.023	.162	.081	.023	.158	.080	.023	
10.0	.165	.079	.022	.162	.078	.022	.158	.077	.022	.153	.076	.022	.149	.075	.021	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.019	.017	.015	
2.0	.173	.132	.098	.148	.114	.084	.101	.079	.059	.058	.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	.051	.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	.029	.112	.060	.025	.077	.042	.018	.045	.025	.011	.015	.008	.003	
9.0	.123	.065	.025	.106	.056	.022	.074	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.118	.060	.022	.101	.052	.019	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
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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:

UGR(Unified Glare Rating) Table

Test:U:24.00V I:0.7143A P:17.14W PF:1.000 Freq:49.99Hz Lamp Flux:1221.12x1 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	16.3	17.8	16.5	18.0	18.2	16.0	17.5	16.3	17.8	18.0
	3H	17.9	19.3	18.2	19.5	19.8	17.5	18.9	17.8	19.1	19.4
	4H	18.5	19.8	18.8	20.1	20.3	18.0	19.4	18.4	19.6	19.9
	6H	18.9	20.2	19.2	20.5	20.7	18.4	19.6	18.7	19.9	20.2
	8H	19.0	20.3	19.4	20.6	20.8	18.4	19.7	18.8	20.0	20.3
	12H	19.1	20.3	19.4	20.6	20.9	18.5	19.6	18.8	19.9	20.3
4H	2H	16.9	18.2	17.2	18.5	18.7	16.7	18.0	17.0	18.3	18.5
	3H	18.6	19.8	19.0	20.1	20.4	18.3	19.5	18.7	19.8	20.1
	4H	19.4	20.5	19.7	20.8	21.1	19.0	20.1	19.4	20.4	20.7
	6H	19.9	20.9	20.3	21.2	21.6	19.4	20.4	19.8	20.7	21.1
	8H	20.1	21.0	20.5	21.4	21.7	19.5	20.4	20.0	20.8	21.2
	12H	20.2	21.0	20.6	21.4	21.8	19.6	20.4	20.0	20.8	21.2
8H	4H	19.6	20.5	20.0	20.9	21.3	19.3	20.2	19.7	20.5	20.9
	6H	20.3	21.0	20.7	21.4	21.9	19.8	20.6	20.3	21.0	21.4
	8H	20.5	21.2	21.0	21.6	22.1	20.0	20.7	20.5	21.1	21.6
	12H	20.7	21.3	21.2	21.7	22.2	20.1	20.7	20.6	21.1	21.6
12H	4H	19.6	20.4	20.0	20.8	21.2	19.3	20.1	19.7	20.5	20.9
	6H	20.3	21.0	20.8	21.4	21.9	19.9	20.5	20.3	21.0	21.4
	8H	20.6	21.2	21.1	21.6	22.1	20.1	20.7	20.6	21.1	21.6

Variations with the observer position at spacings:		
S = 1.0H	+ 0.1 / - 0.2	+ 0.2 / - 0.2
1.5H	+ 0.2 / - 0.3	+ 0.2 / - 0.3
2.0H	+ 0.2 / - 0.3	+ 0.2 / - 0.3

CIE Pub.117, 1221 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.7)

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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:0.7143A P:17.14W PF:1.000 Freq:49.99Hz Lamp Flux:1221.12x1 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) x RCR = 5									
k = 0.60	57	45	38	56	45	38	55	44	38	31
0.80	67	55	48	66	55	47	64	54	47	40
1.00	75	64	57	74	63	56	72	65	56	49
1.25	82	72	65	81	71	64	78	70	63	56
1.50	88	77	70	86	77	70	83	75	69	61
2.00	94	86	79	93	85	78	89	82	77	69
2.50	98	91	84	96	89	84	93	87	82	73
3.00	102	95	89	100	93	88	96	90	86	77
4.00	106	100	95	104	98	94	99	95	91	82
5.00	108	104	99	106	102	98	101	98	95	86
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

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Remarks:

ISOCANDELA DIAGRAM

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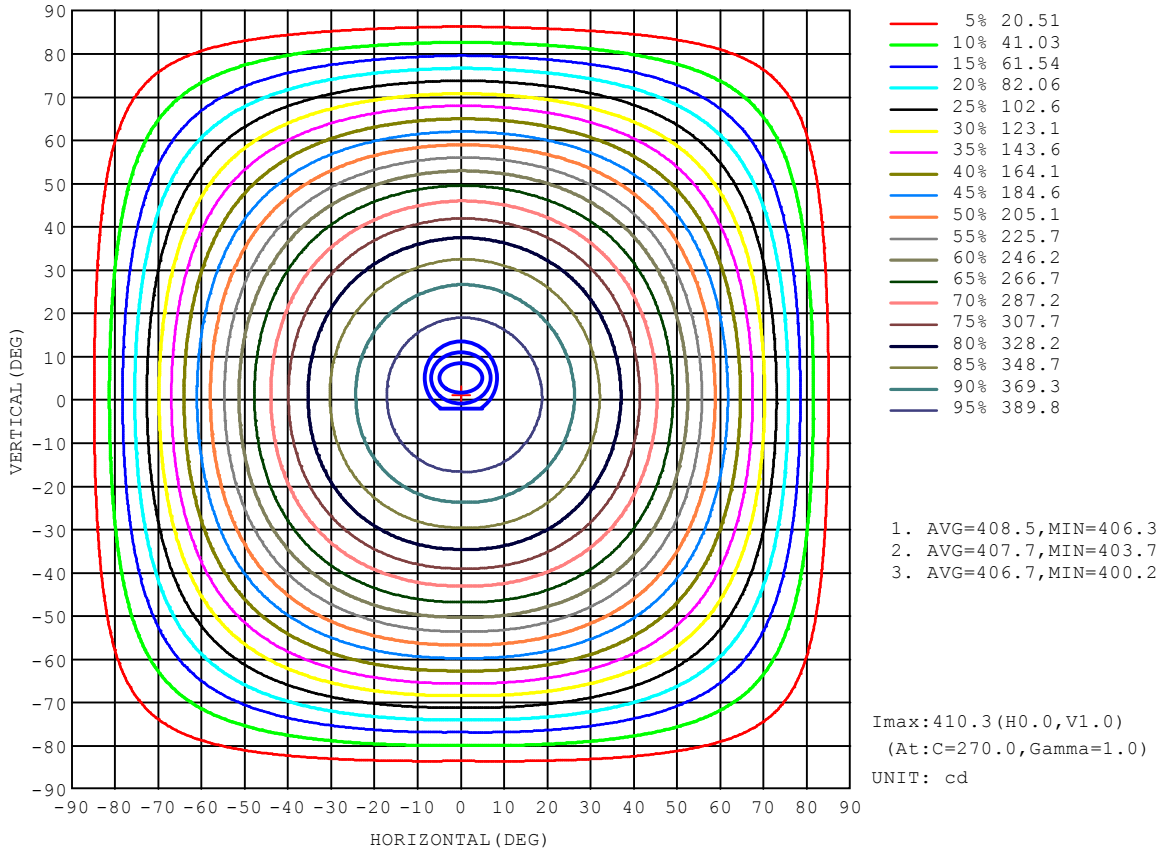

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AAI Figure

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NAME:	TYPE:	WEIGHT:
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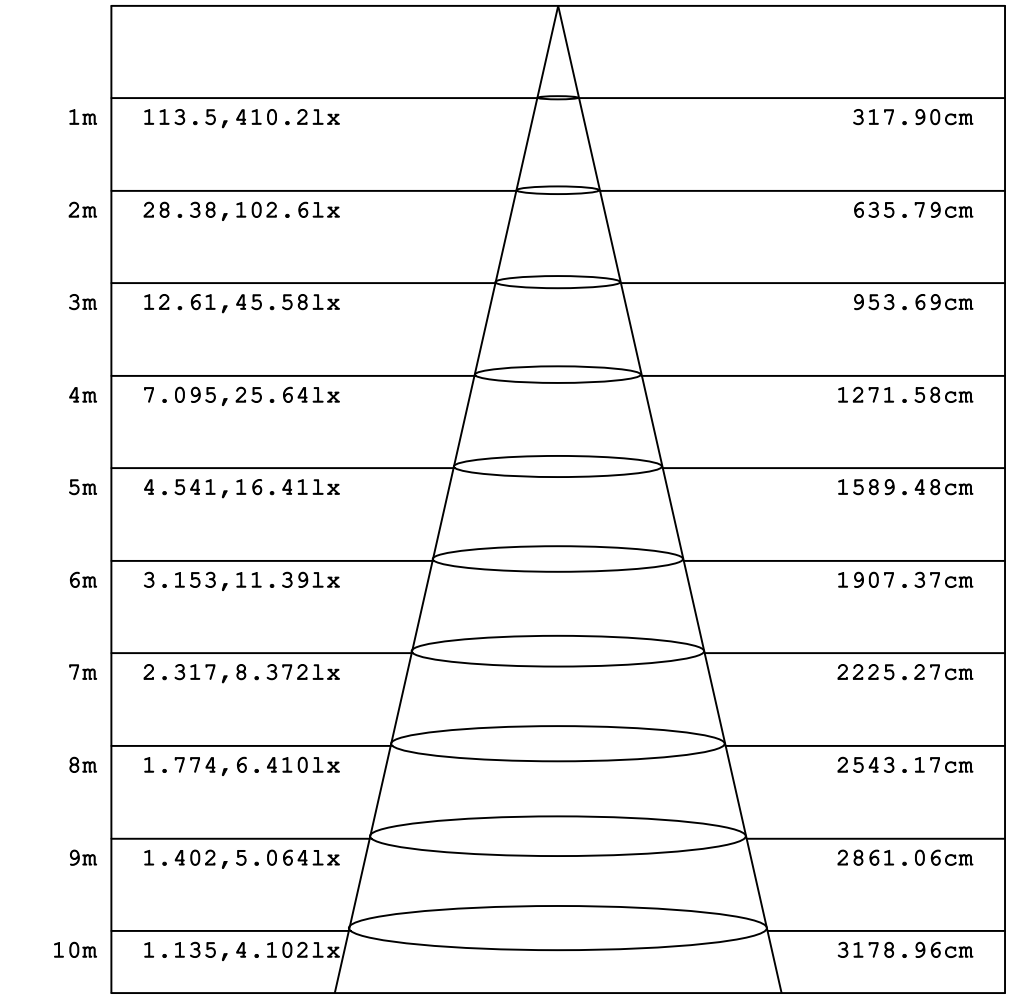
Flux out:913.4 lm



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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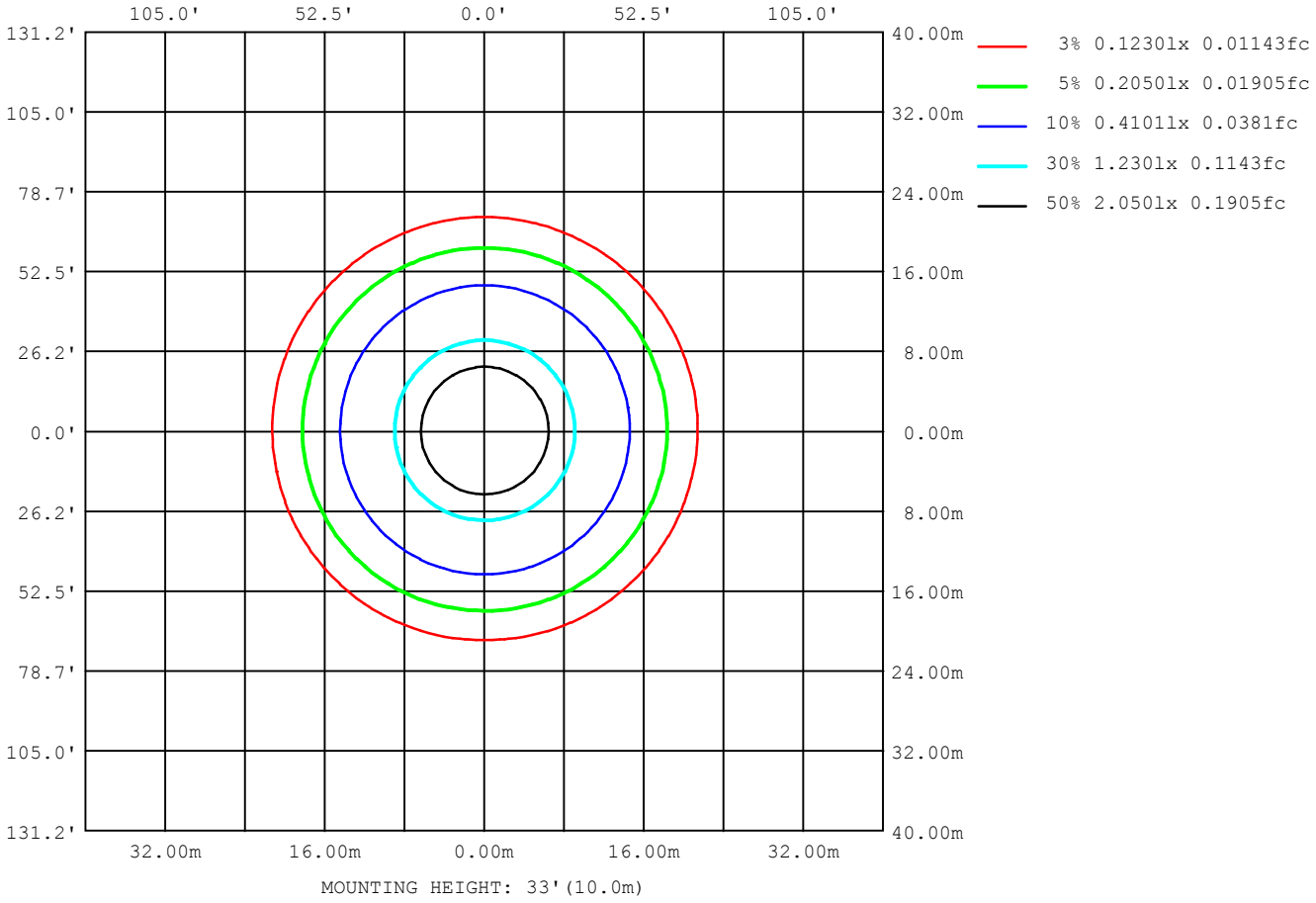

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LED Avg.L Report

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NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

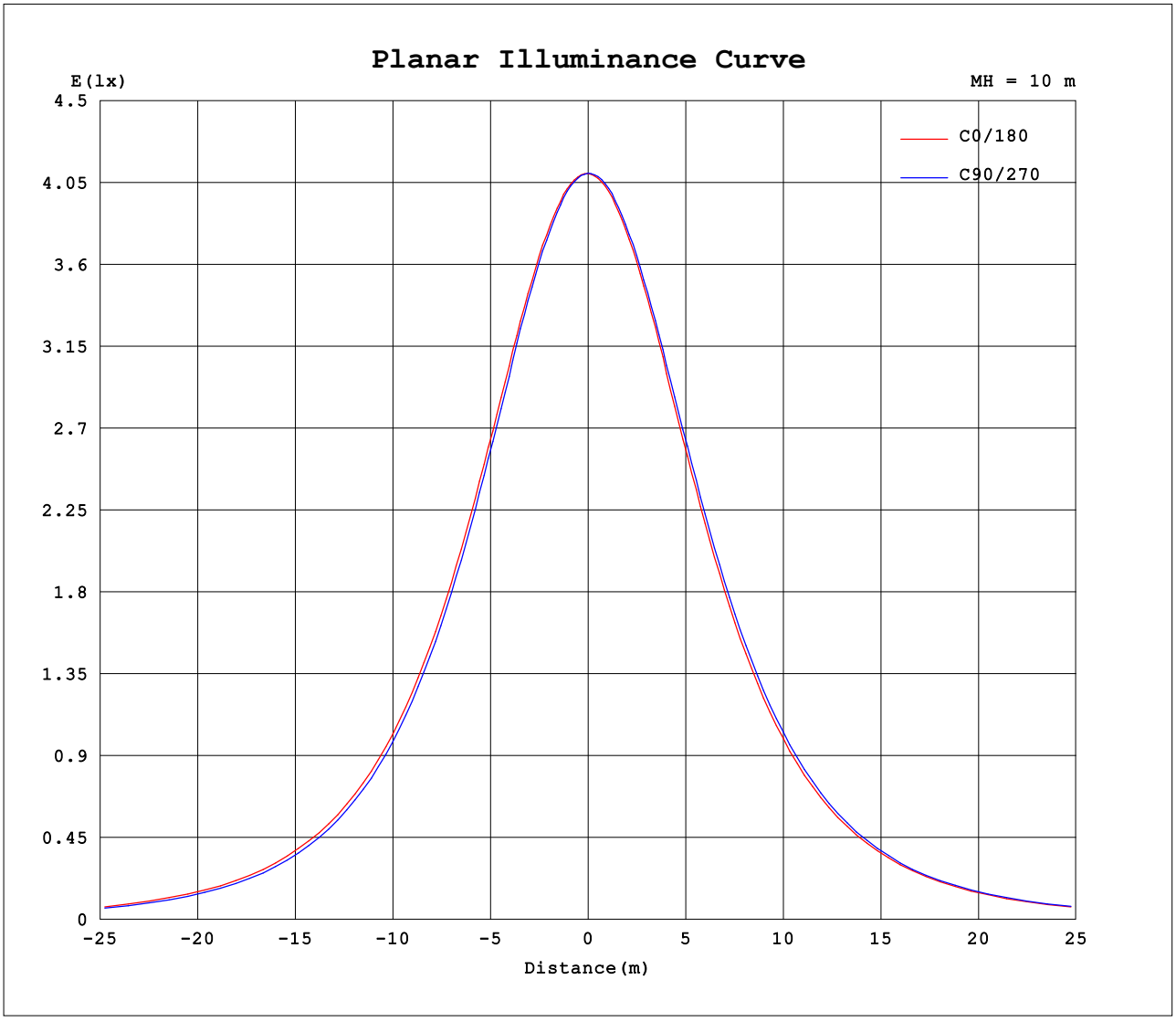
AvgL	cd/m2
L_0~180(65)av	3006
L_0~180(75)av	2657
L_0~180(85)av	1837
L_90~270(65)av	2934
L_90~270(75)av	2593
L_90~270(85)av	1866
L_45(65)av	2958
L_45(75)av	2615
L_45(85)av	1852

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

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.7143A P:17.14W PF:1.000 Freq:49.99Hz Lamp Flux:1221.12x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Table--1 UNIT: cd

C(DEG) / γ (DEG)	0	90	180	270															
0	410	410	410	410															
5	409	408	408	409															
10	405	402	403	405															
15	397	393	394	398															
20	387	382	383	387															
25	374	365	367	374															
30	357	347	350	358															
35	337	327	330	338															
40	315	303	307	317															
45	289	277	282	292															
50	261	248	254	263															
55	231	217	224	231															
60	197	183	192	197															
65	162	148	157	163															
70	125	112	122	128															
75	87.7	75.3	85.1	93.3															
80	51.2	41.0	49.3	58.1															
85	20.7	14.0	19.5	26.9															
90	2.41	1.90	1.94	6.23															

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: