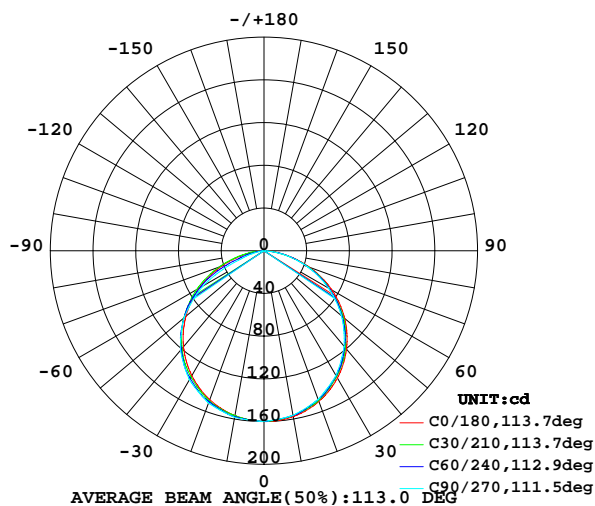


LUMINAIRE PHOTOMETRIC TEST REPORT

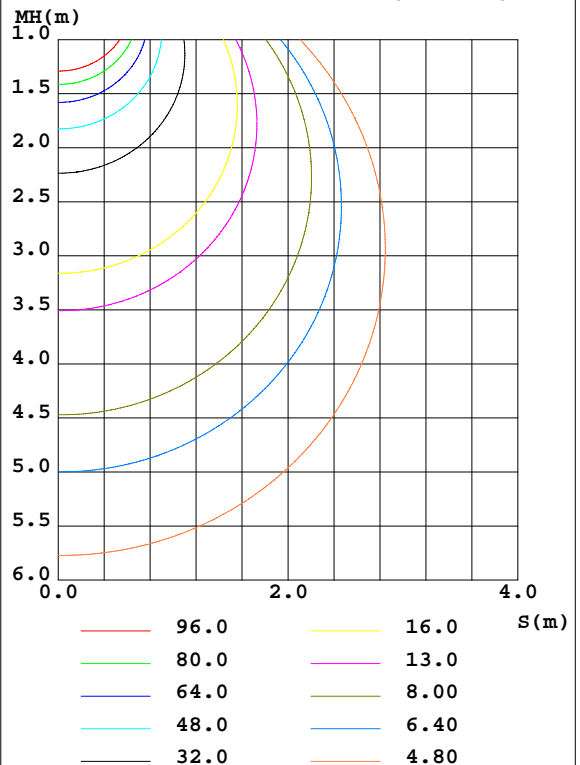
Test:U:24.00V I:0.2295A P:5.508W PF:1.000 Lamp Flux:450.919x1 lm		
NAME: 2835-60-24V	TYPE:LED Strip LIGHT	WEIGHT:1
SPEC.:1000*12MM	DIM.: 1000*12MM	SERIAL No.:1
MFR.: ESTAR	SUR.:1000*12MM	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 81.87 lm/W			
MODEL	2700K	I _{max} (cd)	159.9	S/MH(C0/180)	1.26
NOMINAL POWER(W)	23	LOR(%)	100.0	S/MH(C90/270)	1.29
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	450.92	η UP,DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	450.919	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)	24	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



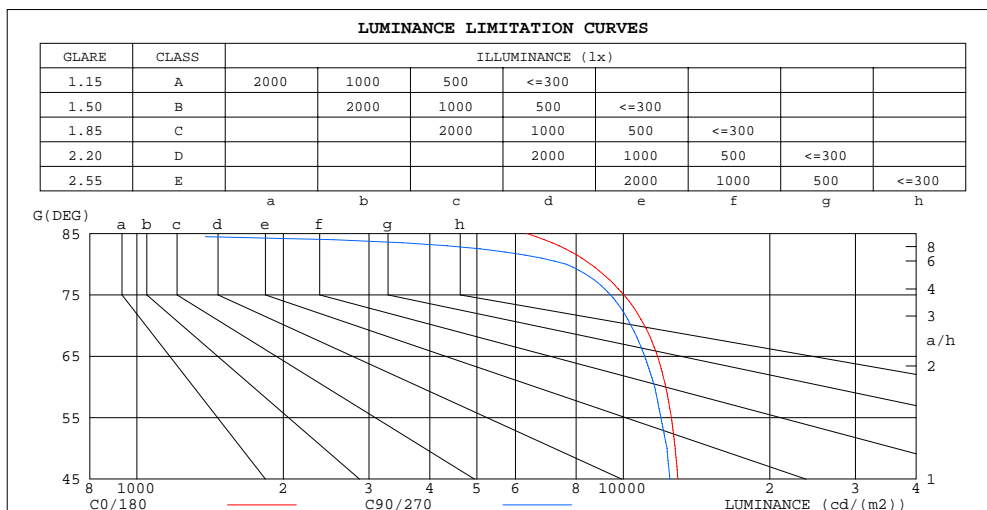
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:ZP
Test Date:2020-07-14

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	$\%lum, lamp$
5	159.5	158.6	158.2	158.2	159.0	158.9	159.1	159.2	0- 5	3.807	3.807	0.84,0.84
10	157.7	156.6	156.6	155.9	156.8	157.2	158.4	157.9	5- 10	11.30	15.10	3.35,3.35
15	154.6	153.5	152.4	152.6	153.2	154.6	155.1	155.5	10- 15	18.44	33.54	7.44,7.44
20	150.2	148.5	148.2	147.2	148.4	149.8	151.8	151.1	15- 20	24.97	58.51	13,13
25	144.5	142.8	141.5	141.3	142.4	144.5	145.7	146.0	20- 25	30.72	89.23	19.8,19.8
30	137.5	135.7	134.8	133.9	135.1	137.6	139.6	139.3	25- 30	35.44	124.7	27.6,27.6
35	129.4	127.3	125.8	125.2	126.7	129.4	130.6	131.3	30- 35	39.01	163.7	36.3,36.3
40	120.2	118.4	116.8	116.0	117.3	120.6	121.7	122.7	35- 40	41.24	204.9	45.4,45.4
45	109.9	107.5	105.8	105.0	106.8	109.7	109.7	111.8	40- 45	42.09	247.0	54.8,54.8
50	98.57	96.47	94.83	93.90	95.36	98.69	97.73	100.7	45- 50	41.44	288.4	64,64
55	86.38	83.66	82.22	81.13	83.10	85.50	81.81	87.27	50- 55	39.32	327.8	72.7,72.7
60	73.35	70.45	69.61	68.32	70.07	72.18	65.89	73.59	55- 60	35.67	363.4	80.6,80.6
65	59.61	57.58	56.10	54.67	56.41	57.25	44.75	57.48	60- 65	30.62	394.1	87.4,87.4
70	45.35	43.65	42.58	41.05	42.37	42.45	23.62	40.23	65- 70	24.17	418.2	92.8,92.8
75	31.14	29.53	29.24	27.49	28.40	27.75	12.80	21.69	70- 75	17.07	435.3	96.5,96.5
80	17.84	17.82	15.91	16.03	15.66	15.71	1.982	11.17	75- 80	10.46	445.8	98.9,98.9
85	6.621	4.618	0	3.953	5.162	3.690	0	2.351	80- 85	4.604	450.4	99.9,99.9
90	0.3314	0	0	0	0.4553	0	0	0	85- 90	0.5559	450.9	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



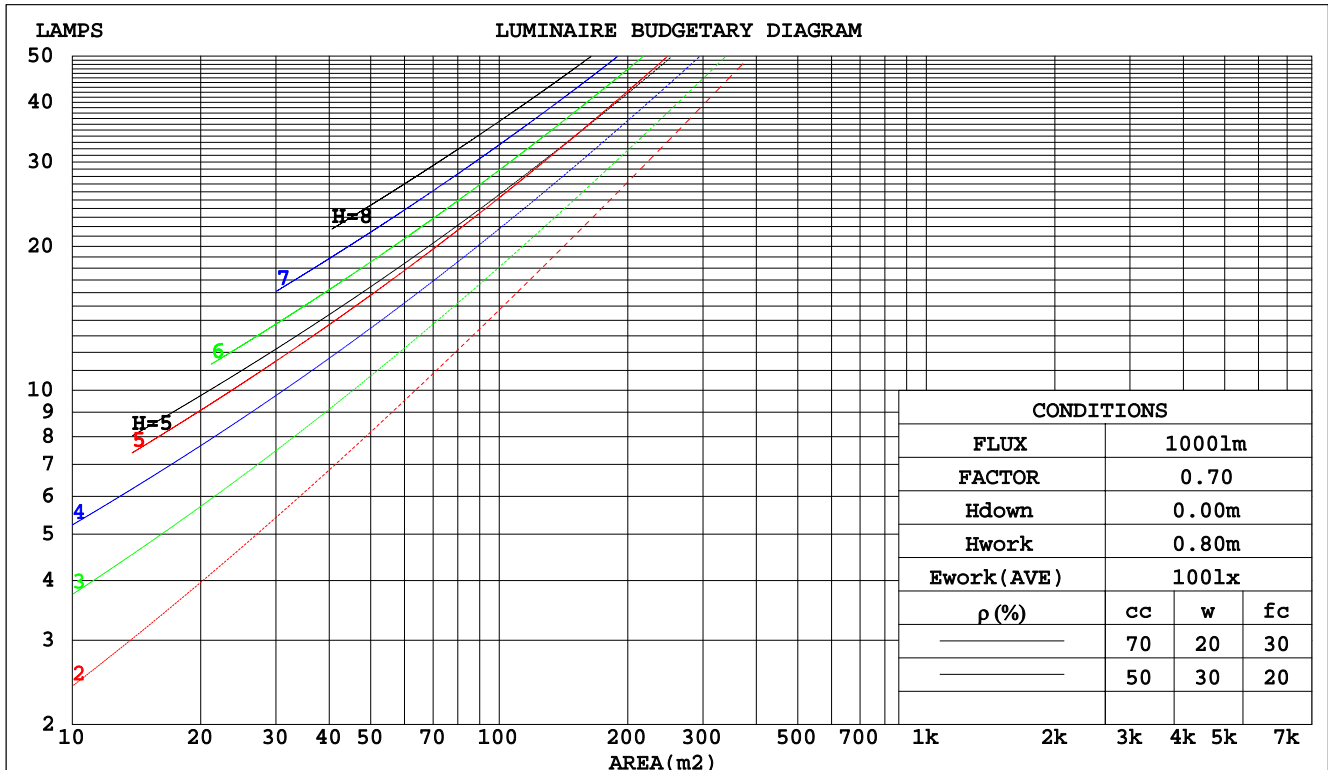
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators: ZP
 Test Date: 2020-07-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.292
 Humidity: 65.0%
 Test Distance: 9.900m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.2295A P:5.508W PF:1.000 Lamp Flux:450.919x1 lm		
NAME: 2835-60-24V	TYPE:LED Strip LIGHT	WEIGHT:1
SPEC.:1000*12MM	DIM.: 1000*12MM	SERIAL No.:1
MFR.: ESTAR	SUR.:1000*12MM	PROTECTION 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	1.05	1.00	.97	1.02	.98	.95	.98	.95	.92	.94	.92	.89	.91	.88	.87	.85
2.0	.91	.85	.79	.89	.83	.78	.86	.81	.76	.83	.78	.74	.80	.76	.73	.71
3.0	.80	.72	.66	.79	.71	.65	.76	.69	.64	.73	.67	.63	.70	.66	.62	.60
4.0	.71	.62	.56	.70	.62	.55	.67	.60	.54	.65	.59	.54	.63	.57	.53	.51
5.0	.63	.54	.48	.62	.54	.48	.60	.53	.47	.58	.52	.47	.56	.51	.46	.44
6.0	.57	.48	.42	.56	.48	.42	.54	.47	.41	.53	.46	.41	.51	.45	.40	.38
7.0	.52	.43	.37	.51	.43	.37	.49	.42	.36	.48	.41	.36	.47	.40	.36	.34
8.0	.47	.39	.33	.46	.38	.33	.45	.38	.32	.44	.37	.32	.43	.37	.32	.30
9.0	.43	.35	.29	.43	.35	.29	.41	.34	.29	.40	.34	.29	.39	.33	.29	.27
10.0	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.26	.37	.31	.26	.25



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:ZP
 Test Date:2020-07-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:24.00V I:0.2295A P:5.508W PF:1.000 Lamp Flux:450.919x1 lm		
NAME: 2835-60-24V	TYPE:LED Strip LIGHT	WEIGHT:1
SPEC.:1000*12MM	DIM.: 1000*12MM	SERIAL No.:1
MFR.: ESTAR	SUR.:1000*12MM	PROTECTION 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	.298	.169	.054	.291	.166	.053	.277	.159	.051	.265	.153	.049	.254	.147	.047	
2.0	.284	.156	.048	.278	.153	.047	.266	.148	.046	.256	.143	.045	.246	.139	.044	
3.0	.265	.141	.042	.260	.139	.042	.249	.135	.041	.240	.131	.040	.231	.128	.040	
4.0	.246	.128	.038	.241	.126	.037	.232	.123	.037	.223	.120	.036	.215	.117	.036	
5.0	.228	.116	.034	.224	.115	.033	.215	.112	.033	.208	.110	.033	.201	.107	.032	
6.0	.212	.106	.030	.208	.105	.030	.201	.103	.030	.194	.101	.030	.188	.099	.029	
7.0	.197	.098	.028	.194	.097	.028	.188	.095	.027	.182	.093	.027	.176	.091	.027	
8.0	.185	.090	.025	.182	.089	.025	.176	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.173	.084	.023	.170	.083	.023	.165	.082	.023	.160	.080	.023	.156	.079	.023	
10.0	.163	.078	.022	.161	.078	.022	.156	.076	.021	.151	.075	.021	.147	.074	.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	.135	.154	.134	.116	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.147	.114	.086	.101	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.075	.140	.099	.065	.096	.068	.046	.056	.040	.027	.018	.013	.009	
4.0	.156	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.149	.090	.048	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.129	.069	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004	
9.0	.123	.064	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:ZP
Test Date:2020-07-14

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.00V I:0.2295A P:5.508W PF:1.000 Lamp Flux:450.919x1 lm											
NAME: 2835-60-24V					TYPE:LED Strip LIGHT			WEIGHT:1			
SPEC.:1000*12MM					DIM.: 1000*12MM			SERIAL No.:1			
MFR.: ESTAR					SUR.:1000*12MM			PROTECTION 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		21.7	23.2	22.0	23.4	23.7	21.6	23.1	21.8	23.3	23.5
	3H	23.2	24.6	23.5	24.9	25.1	23.1	24.4	23.4	24.7	24.9
	4H	23.8	25.1	24.1	25.3	25.6	23.6	25.0	23.9	25.2	25.5
	6H	24.1	25.3	24.4	25.6	25.9	24.0	25.3	24.3	25.5	25.8
	8H	24.1	25.3	24.5	25.6	25.9	24.1	25.3	24.4	25.5	25.8
	12H	24.2	25.3	24.5	25.6	25.9	24.0	25.2	24.4	25.5	25.8
4H	2H	22.3	23.6	22.6	23.9	24.2	22.2	23.5	22.5	23.8	24.0
	3H	24.0	25.2	24.4	25.4	25.8	23.9	25.0	24.2	25.3	25.6
	4H	24.6	25.7	25.0	26.0	26.3	24.6	25.6	24.9	25.9	26.3
	6H	25.0	25.9	25.4	26.3	26.7	25.1	26.0	25.5	26.3	26.7
	8H	25.1	26.0	25.5	26.4	26.7	25.2	26.0	25.6	26.4	26.8
	12H	25.2	26.0	25.6	26.4	26.8	25.1	25.9	25.6	26.3	26.7
8H	4H	24.9	25.7	25.3	26.1	26.5	24.8	25.7	25.2	26.1	26.4
	6H	25.4	26.1	25.8	26.5	26.9	25.5	26.2	25.9	26.6	27.0
	8H	25.6	26.2	26.0	26.6	27.1	25.6	26.2	26.1	26.7	27.1
	12H	25.7	26.2	26.2	26.7	27.1	25.6	26.2	26.1	26.6	27.1
12H	4H	24.9	25.7	25.3	26.1	26.5	24.8	25.6	25.2	26.0	26.4
	6H	25.4	26.1	25.9	26.5	27.0	25.5	26.1	26.0	26.6	27.0
	8H	25.7	26.2	26.1	26.6	27.1	25.7	26.2	26.2	26.7	27.2
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.2					
1.5H	+ 0.1 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.3 / - 0.4					+ 0.2 / - 0.3					

CIE Pub.117 Corrected 450.9 lm Total Lamp Luminous Flux.(8log(F/F0) = -2.8)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:ZP
Test Date:2020-07-14

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.2295A P:5.508W PF:1.000 Lamp Flux:450.919x1 lm		
NAME: 2835-60-24V	TYPE:LED Strip LIGHT	WEIGHT:1
SPEC.:1000*12MM	DIM.: 1000*12MM	SERIAL No.:1
MFR.: ESTAR	SUR.:1000*12MM	PROTECTION 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	58	46	39	57	46	39	56	46	39	33
0.80	68	57	49	67	56	49	65	55	49	42
1.00	77	66	58	75	65	58	73	66	58	51
1.25	84	73	66	82	73	66	80	71	65	58
1.50	89	79	72	87	78	72	84	76	71	63
2.00	96	87	81	94	86	80	90	84	79	71
2.50	99	92	86	97	91	85	94	88	83	75
3.00	103	96	91	101	95	90	97	92	88	79
4.00	107	101	97	104	100	95	100	96	93	84
5.00	109	104	101	107	103	99	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004										
Suspended							SHRNM = 1.25			

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:ZP
 Test Date:2020-07-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:24.00V I:0.2295A P:5.508W PF:1.000 Lamp Flux:450.919x1 lm		
NAME: 2835-60-24V	TYPE:LED Strip LIGHT	WEIGHT:1
SPEC.:1000*12MM	DIM.: 1000*12MM	SERIAL No.:1
MFR.: ESTAR	SUR.:1000*12MM	PROTECTION ANGLE:

Conical surface Flux(90deg):

247 lm

%lum = 54.8%

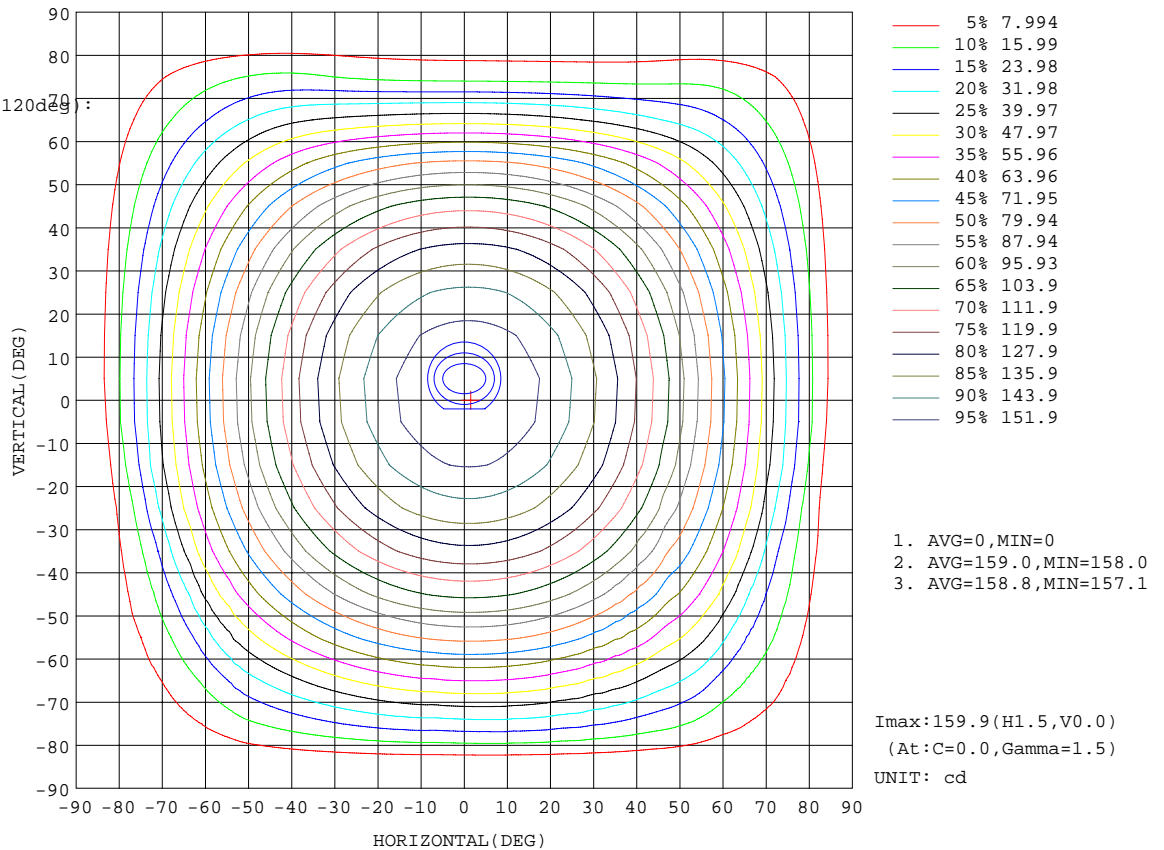
%lamp = 54.8%

Conical surface Flux(120deg):

363.44 lm

%lum = 80.6%

%lamp = 80.6%

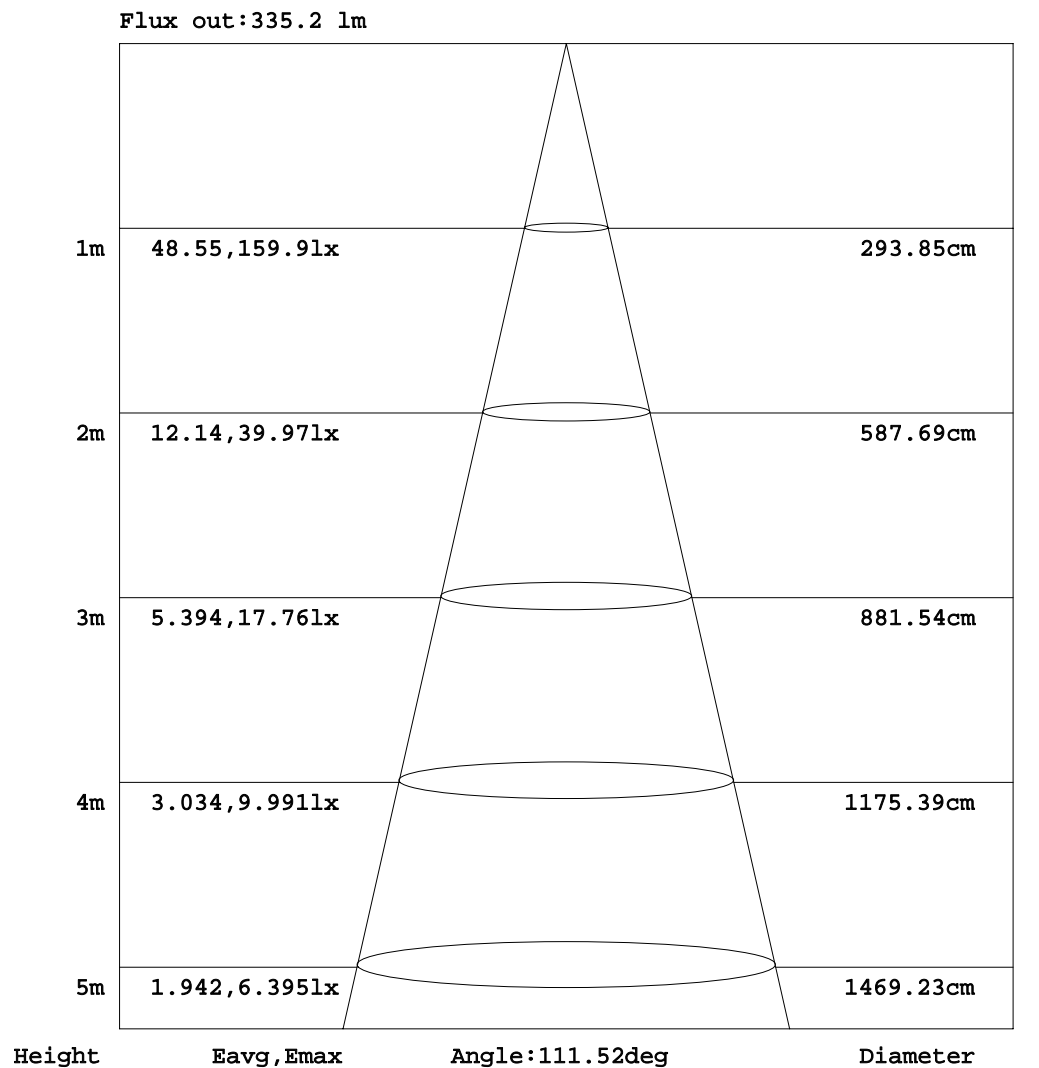


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:ZP
Test Date:2020-07-14

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

AAI Figure

Test:U:24.00V I:0.2295A P:5.508W PF:1.000 Lamp Flux:450.919x1 lm		
NAME: 2835-60-24V	TYPE:LED Strip LIGHT	WEIGHT:1
SPEC.:1000*12MM	DIM.: 1000*12MM	SERIAL No.:1
MFR.: ESTAR	SUR.:1000*12MM	PROTECTION ANGLE:



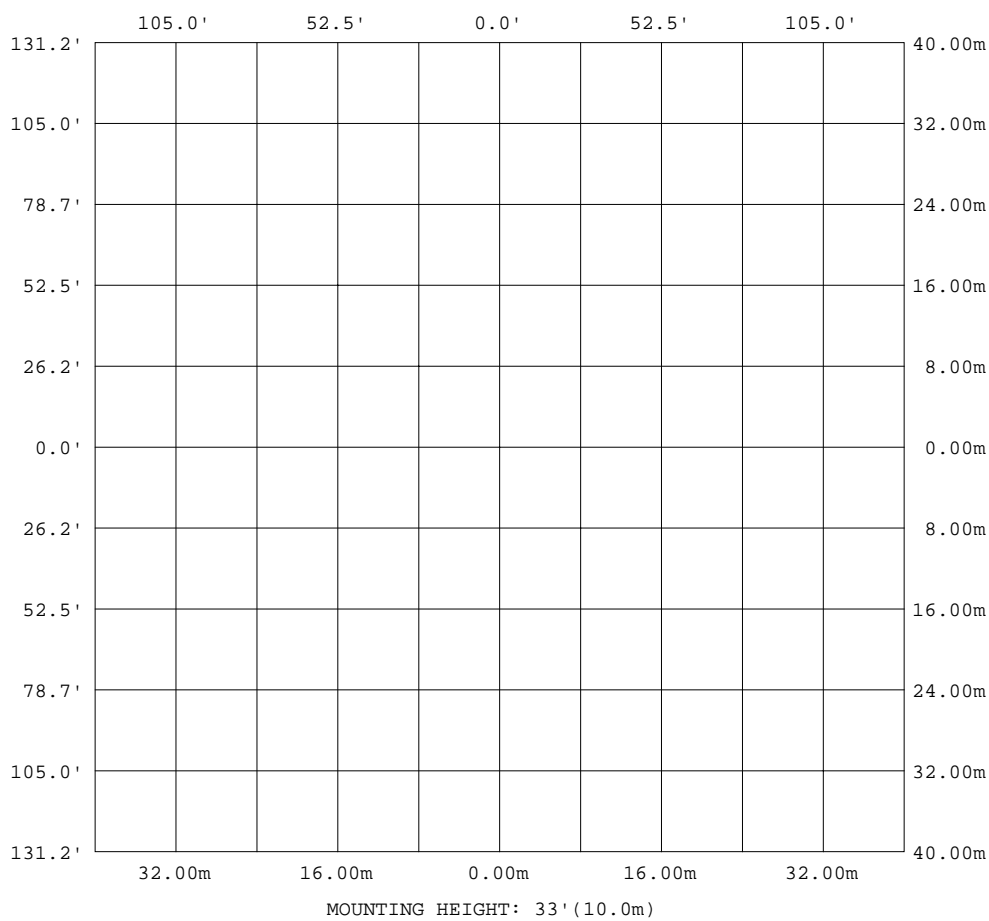
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:ZP
Test Date:2020-07-14

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:24.00V I:0.2295A P:5.508W PF:1.000 Lamp Flux:450.919x1 lm		
NAME: 2835-60-24V	TYPE:LED Strip LIGHT	WEIGHT:1
SPEC.:1000*12MM	DIM.: 1000*12MM	SERIAL No.:1
MFR.: ESTAR	SUR.:1000*12MM	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:ZP
Test Date:2020-07-14

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:24.00V I:0.2295A P:5.508W PF:1.000 Lamp Flux:450.919x1 lm		
NAME: 2835-60-24V	TYPE:LED Strip LIGHT	WEIGHT:1
SPEC.:1000*12MM	DIM.: 1000*12MM	SERIAL No.:1
MFR.: ESTAR	SUR.:1000*12MM	PROTECTION ANGLE:

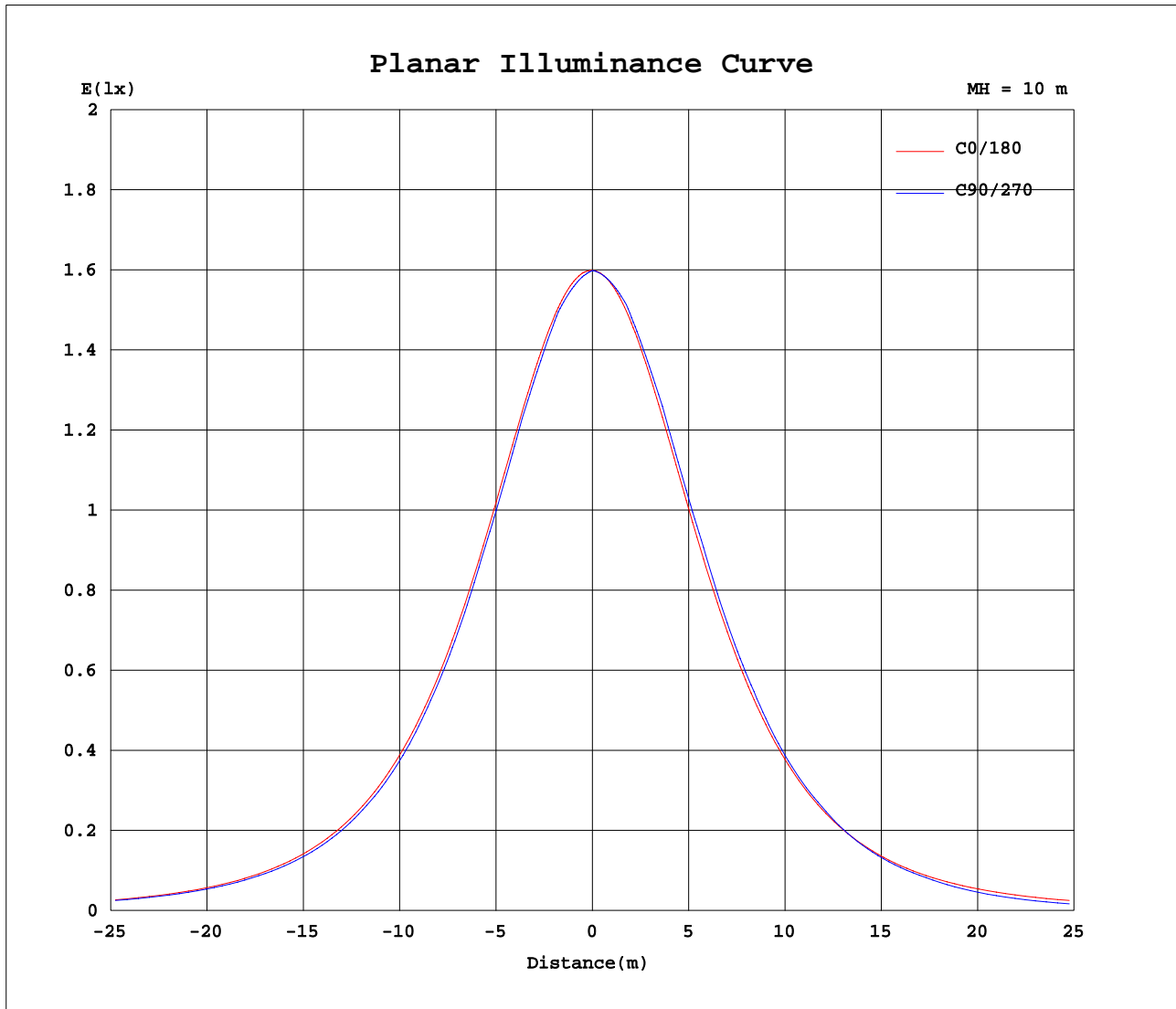
AvgL	cd/m2
L_0~180(65)av	11438
L_0~180(75)av	9586
L_0~180(85)av	5633
L_90~270(65)av	9943
L_90~270(75)av	6768
L_90~270(85)av	0
L_45(65)av	11189
L_45(75)av	8569
L_45(85)av	3493

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:ZP
Test Date:2020-07-14

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: ZP
Test Date: 2020-07-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.292
Humidity: 65.0%
Test Distance: 9.900m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.292
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

```