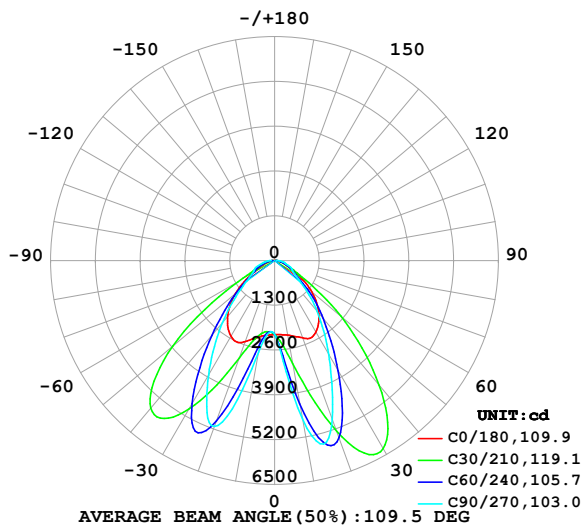


LUMINAIRE PHOTOMETRIC TEST REPORT

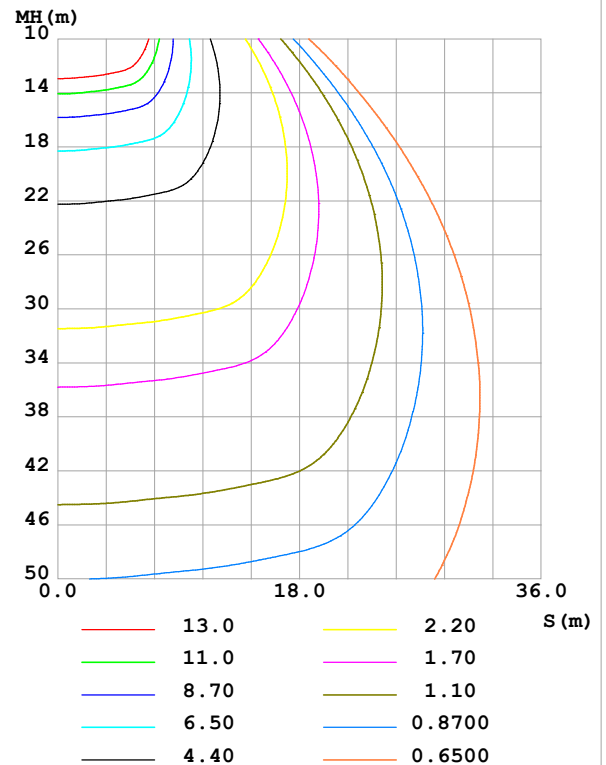
Test:U:229.42V I:0.255A P:57.6W PF:0.986 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:11086x1 lm		
NAME: 2853-RL20*90D*RL20-4080		
SPEC.: VS ECXe 350.619(187326)		
MFR.: SOTEN		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 173.35 lm/W			
MODEL	ET 2835	I _{max} (cd)	6456	S/MH (C0/180)	1.52
NOMINAL POWER(W)	60	LOR (%)	90.1	S/MH (C90/270)	1.48
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	9991.6	η UP,DN (C0-180)	0.0,44.8
NOMINAL FLUX(lm)	11086	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,45.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	230	η down (%)	90.1	CIBSE SHR MAX	0.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25℃
Operators:LI
Test Date:2025-10-28

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Humidity:65.0%
Test Distance:8.300m [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	2199	3675	4665	3650	2233	2268	2697	2359	0- 10	243.7	243.7	2.44,2.2
20	2391	5814	4898	5909	2500	4161	5128	4451	10- 20	1089	1332	13.3,12
30	2399	4854	3142	4895	2540	5779	3841	5728	20- 30	2074	3406	34.1,30.7
40	2001	2883	1932	2839	2126	4142	2363	3909	30- 40	2382	5789	57.9,52.2
50	1410	1480	1016	1422	1479	2034	1272	1936	40- 50	2017	7805	78.1,70.4
60	725.5	665.2	613.6	655.9	722.0	798.3	745.9	812.4	50- 60	1217	9022	90.3,81.4
70	329.7	365.9	421.6	362.1	324.8	416.1	567.7	437.3	60- 70	561.4	9583	95.9,86.4
80	150.6	149.6	257.5	145.3	147.9	190.0	310.6	203.0	70- 80	296.2	9880	98.9,89.1
90	11.11	26.55	54.94	26.73	10.50	36.86	93.06	41.94	80- 90	111.9	9992	100,90.1
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): 6876.1 lm

%lum = 68.8%

%lamp = 62.0%

Conical surface Flux(130deg): 9349.3 lm

%lum = 93.6%

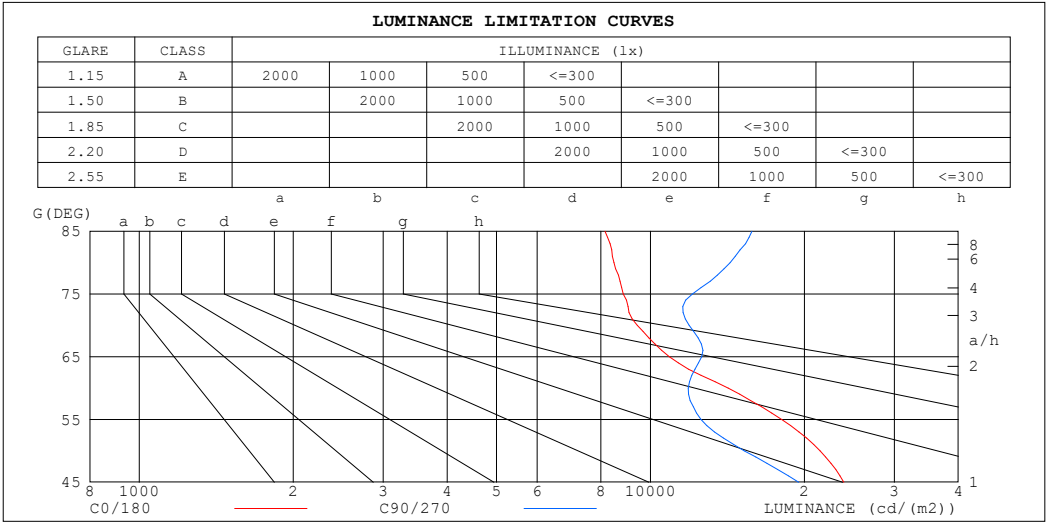
%lamp = 84.3%

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25℃
 Operators:LI
 Test Date:2025-10-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
 Humidity:65.0%
 Test Distance:8.300m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:229.42V I:0.255A P:57.6W PF:0.986 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:11086x1 lm		
NAME: 2853-RL20*90D*RL20-4080		
SPEC.: VS ECXe 350.619(187326)		
MFR.: SOTEN		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	8150	15799
80	8481	14318
75	8851	12076
70	9427	11904
65	10893	12588
60	14190	11851
55	18070	12559
50	21458	15261
45	23888	19506

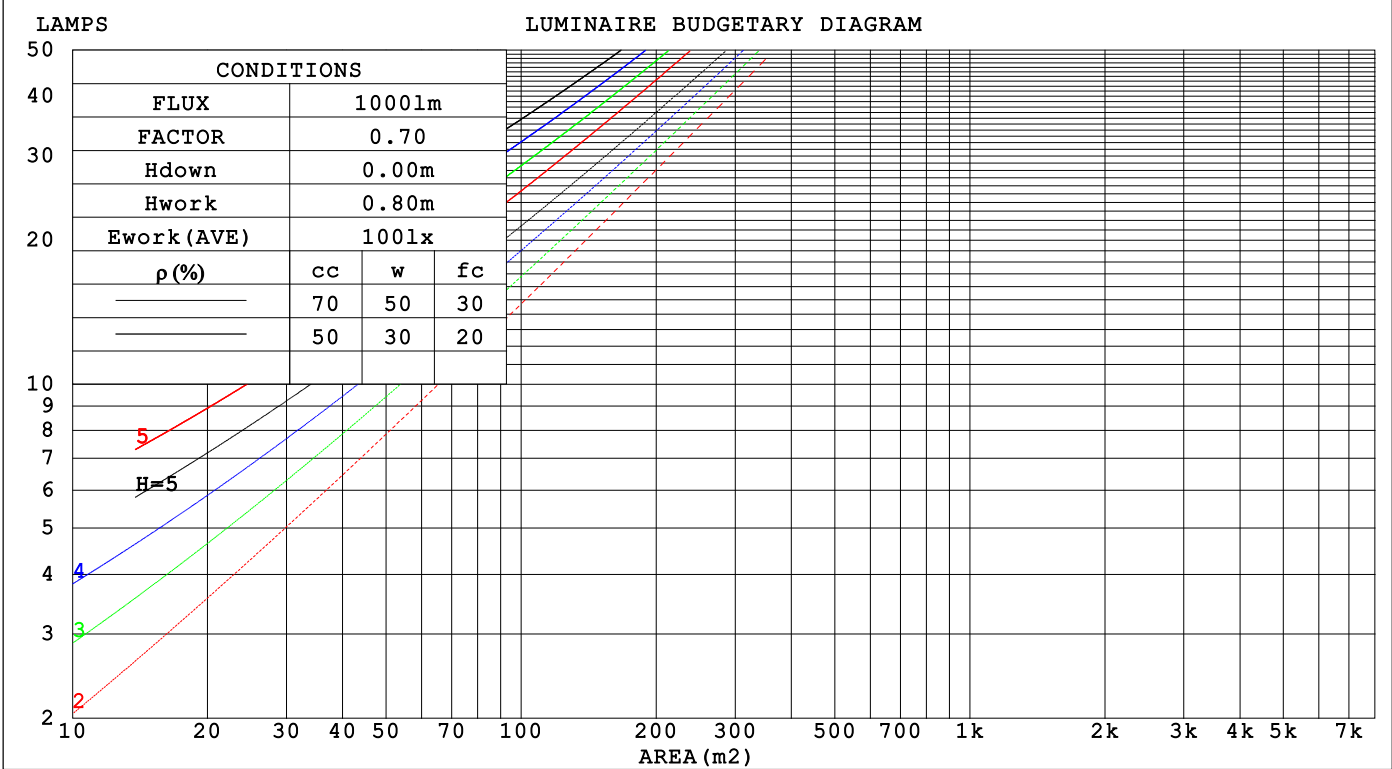
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25℃
Operators:LI
Test Date:2025-10-28

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Humidity:65.0%
Test Distance:8.300m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:229.42V I:0.255A P:57.6W PF:0.986 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:11086x1 lm		
NAME: 2853-RL20*90D*RL20-4080		
SPEC.: VS ECXe 350.619(187326)		
MFR.: SOTEN		

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	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	.96	.96	.96	.92	.92	.92	.90
1.0	.96	.93	.90	.94	.91	.88	.90	.88	.86	.87	.85	.83	.84	.82	.80	.79
2.0	.85	.80	.76	.84	.79	.75	.81	.77	.73	.78	.74	.71	.75	.72	.70	.68
3.0	.76	.70	.65	.75	.69	.64	.72	.67	.63	.70	.66	.62	.68	.64	.61	.59
4.0	.69	.61	.56	.67	.61	.56	.65	.59	.55	.63	.58	.54	.61	.57	.54	.52
5.0	.62	.54	.49	.61	.54	.49	.59	.53	.48	.57	.52	.48	.56	.51	.47	.45
6.0	.56	.49	.43	.55	.48	.43	.54	.47	.43	.52	.47	.42	.51	.46	.42	.40
7.0	.51	.44	.38	.50	.43	.38	.49	.43	.38	.48	.42	.38	.46	.41	.37	.36
8.0	.47	.39	.34	.46	.39	.34	.45	.38	.34	.44	.38	.34	.43	.37	.34	.32
9.0	.43	.36	.31	.42	.35	.31	.41	.35	.31	.40	.35	.31	.39	.34	.30	.29
10.0	.39	.33	.28	.39	.32	.28	.38	.32	.28	.37	.32	.28	.36	.31	.28	.26



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25℃
Operators:LI
Test Date:2025-10-28

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Humidity:65.0%
Test Distance:8.300m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:229.42V I:0.255A P:57.6W PF:0.986 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:11086x1 lm		
NAME: 2853-RL20*90D*RL20-4080		
SPEC.: VS ECXe 350.619(187326)		
MFR.: SOTEN		

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	.235	.134	.042	.229	.130	.041	.217	.124	.040	.206	.119	.038	.196	.114	.037															
2.0	.225	.123	.038	.219	.121	.037	.209	.116	.036	.200	.112	.035	.191	.108	.034															
3.0	.212	.113	.034	.208	.111	.033	.199	.108	.033	.190	.104	.032	.183	.101	.031															
4.0	.200	.104	.030	.195	.102	.030	.187	.099	.030	.180	.097	.029	.173	.094	.029															
5.0	.187	.096	.028	.184	.094	.027	.177	.092	.027	.170	.090	.027	.164	.088	.026															
6.0	.176	.088	.025	.173	.087	.025	.167	.085	.025	.161	.084	.025	.155	.082	.024															
7.0	.166	.082	.023	.163	.081	.023	.157	.080	.023	.152	.078	.023	.147	.077	.022															
8.0	.157	.077	.022	.154	.076	.021	.149	.074	.021	.144	.073	.021	.140	.072	.021															
9.0	.148	.072	.020	.146	.071	.020	.141	.070	.020	.137	.069	.020	.133	.068	.020															
10.0	.140	.067	.019	.138	.067	.019	.134	.066	.018	.130	.065	.018	.127	.064	.018															

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	.172	.172	.172	.147	.147	.147	.100	.100	.100	.058	.058	.058	.018	.018	.018	
1.0	.159	.141	.125	.136	.121	.107	.093	.083	.074	.054	.048	.043	.017	.016	.014	
2.0	.150	.119	.093	.129	.102	.080	.088	.071	.056	.051	.041	.033	.016	.013	.011	
3.0	.142	.103	.071	.122	.089	.062	.084	.062	.043	.048	.036	.026	.016	.012	.008	
4.0	.135	.090	.056	.116	.078	.049	.080	.054	.034	.046	.032	.020	.015	.010	.007	
5.0	.129	.081	.046	.111	.070	.040	.076	.049	.028	.044	.029	.017	.014	.009	.005	
6.0	.123	.073	.038	.105	.063	.033	.073	.044	.023	.042	.026	.014	.014	.009	.005	
7.0	.117	.067	.032	.101	.058	.028	.070	.041	.020	.040	.024	.012	.013	.008	.004	
8.0	.112	.062	.027	.096	.053	.024	.067	.038	.017	.039	.022	.010	.013	.007	.003	
9.0	.107	.057	.024	.092	.050	.021	.064	.035	.015	.037	.021	.009	.012	.007	.003	
10.0	.102	.053	.021	.088	.046	.018	.061	.033	.013	.036	.019	.008	.012	.006	.003	

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25℃
 Operators:LI
 Test Date:2025-10-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
 Humidity:65.0%
 Test Distance:8.300m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:229.42V I:0.255A P:57.6W PF:0.986 Freq:49.99Hz										
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:11086x1 lm										
NAME: 2853-RL20*90D*RL20-4080										
SPEC.: VS ECXe 350.619(187326)										
MFR.: SOTEN										
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	25.2	26.6	25.4	26.7	26.9	20.3	21.6	20.5	21.8	22.0
3H	25.3	26.5	25.6	26.8	27.0	21.1	22.3	21.4	22.6	22.8
4H	25.3	26.5	25.6	26.7	27.0	21.5	22.7	21.8	23.0	23.2
6H	25.3	26.4	25.7	26.7	27.0	22.1	23.2	22.4	23.4	23.7
8H	25.3	26.4	25.7	26.7	27.0	22.3	23.4	22.7	23.7	24.0
12H	25.3	26.4	25.7	26.6	26.9	22.6	23.6	22.9	23.9	24.2
4H 2H	25.0	26.2	25.3	26.5	26.7	20.7	21.9	21.0	22.2	22.4
3H	25.2	26.3	25.6	26.6	26.9	21.7	22.7	22.1	23.0	23.3
4H	25.4	26.3	25.7	26.6	26.9	22.2	23.2	22.6	23.5	23.8
6H	25.5	26.3	25.9	26.6	27.0	22.9	23.7	23.2	24.0	24.4
8H	25.5	26.3	25.9	26.6	27.0	23.2	23.9	23.6	24.3	24.7
12H	25.5	26.2	26.0	26.6	27.0	23.5	24.2	23.9	24.6	25.0
8H 4H	25.3	26.1	25.8	26.5	26.9	22.4	23.2	22.8	23.5	23.9
6H	25.5	26.2	26.0	26.6	27.0	23.1	23.7	23.6	24.1	24.6
8H	25.6	26.2	26.1	26.6	27.0	23.5	24.1	24.0	24.5	24.9
12H	25.7	26.2	26.2	26.6	27.1	23.9	24.4	24.4	24.8	25.3
12H 4H	25.3	26.0	25.7	26.4	26.8	22.4	23.1	22.8	23.5	23.9
6H	25.5	26.1	26.0	26.5	26.9	23.1	23.7	23.6	24.1	24.6
8H	25.6	26.1	26.1	26.5	27.0	23.6	24.0	24.0	24.5	25.0
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 1.2 / - 2.2					+ 0.5 / - 0.6				
1.5H	+ 1.4 / - 3.2					+ 0.5 / - 0.5				
2.0H	+ 3.1 / - 3.4					+ 0.9 / - 0.5				

CIE Pub.117, 11086 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 8.4)
 Area: 0.1037 m2

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25℃
 Operators:LI
 Test Date:2025-10-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
 Humidity:65.0%
 Test Distance:8.300m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:229.42V I:0.255A P:57.6W PF:0.986 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:11086x1 lm		
NAME: 2853-RL20*90D*RL20-4080		
SPEC.: VS ECXe 350.619(187326)		
MFR.: SOTEN		

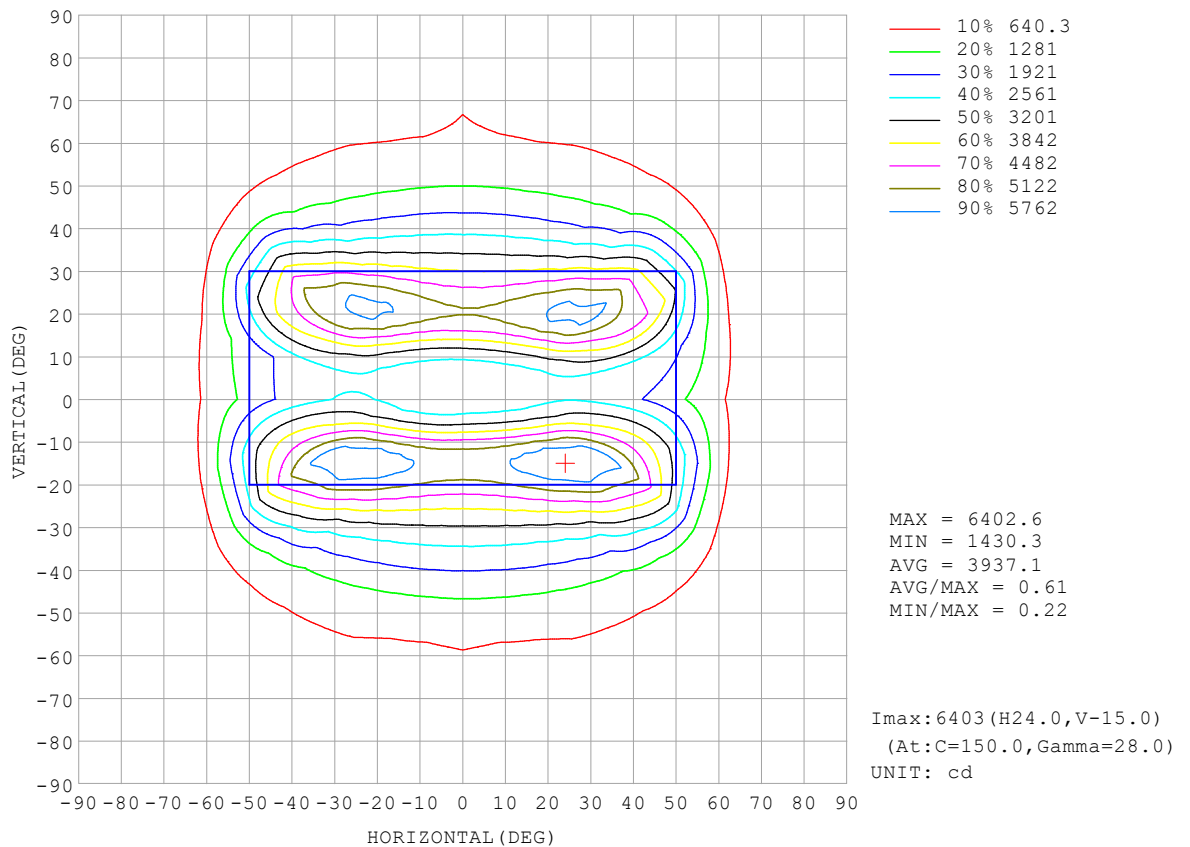
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	59	49	44	58	49	44	57	49	43	38
0.80	68	59	53	67	58	53	65	58	52	47
1.00	75	67	61	74	66	61	72	67	60	55
1.25	81	73	68	80	73	68	78	71	67	61
1.50	85	78	73	84	77	72	81	75	71	65
2.00	90	84	79	89	83	79	86	81	77	71
2.50	93	87	83	91	86	82	88	84	80	74
3.00	95	90	86	93	89	85	90	86	83	76
4.00	98	94	90	96	92	89	92	89	87	79
5.00	100	96	93	98	94	92	94	91	89	81
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25°C
 Operators: LI
 Test Date: 2025-10-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.485
 Humidity: 65.0%
 Test Distance: 8.300m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:229.42V I:0.255A P:57.6W PF:0.986 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:11086x1 lm		
NAME: 2853-RL20*90D*RL20-4080		
SPEC.: VS ECXe 350.619(187326)		
MFR.: SOTEN		

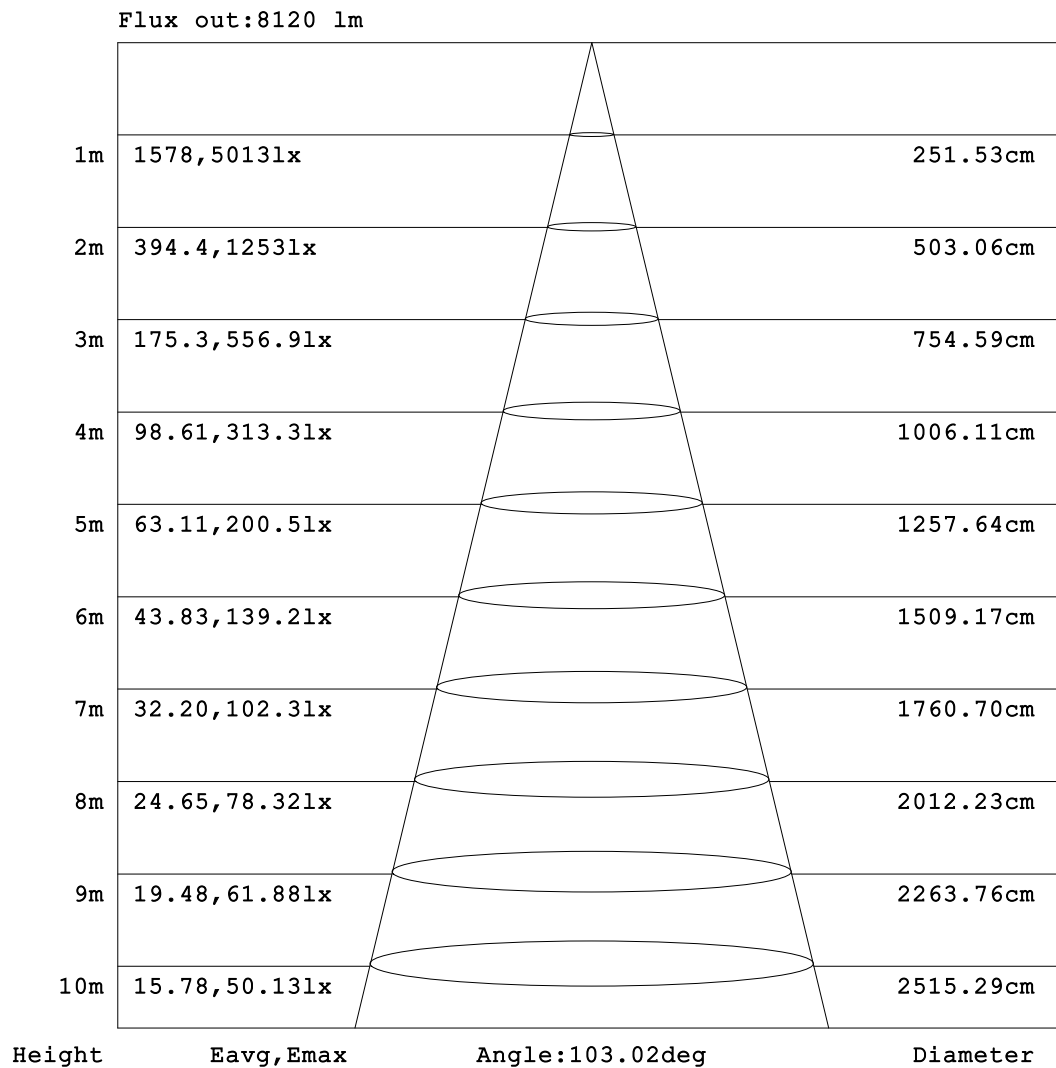


C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25℃
 Operators:LI
 Test Date:2025-10-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
 Humidity:65.0%
 Test Distance:8.300m [K=1.0000]
 Remarks:

AAI Figure

Test:U:229.42V I:0.255A P:57.6W PF:0.986 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:11086x1 lm		
NAME: 2853-RL20*90D*RL20-4080		
SPEC.: VS ECXe 350.619(187326)		
MFR.: SOTEN		



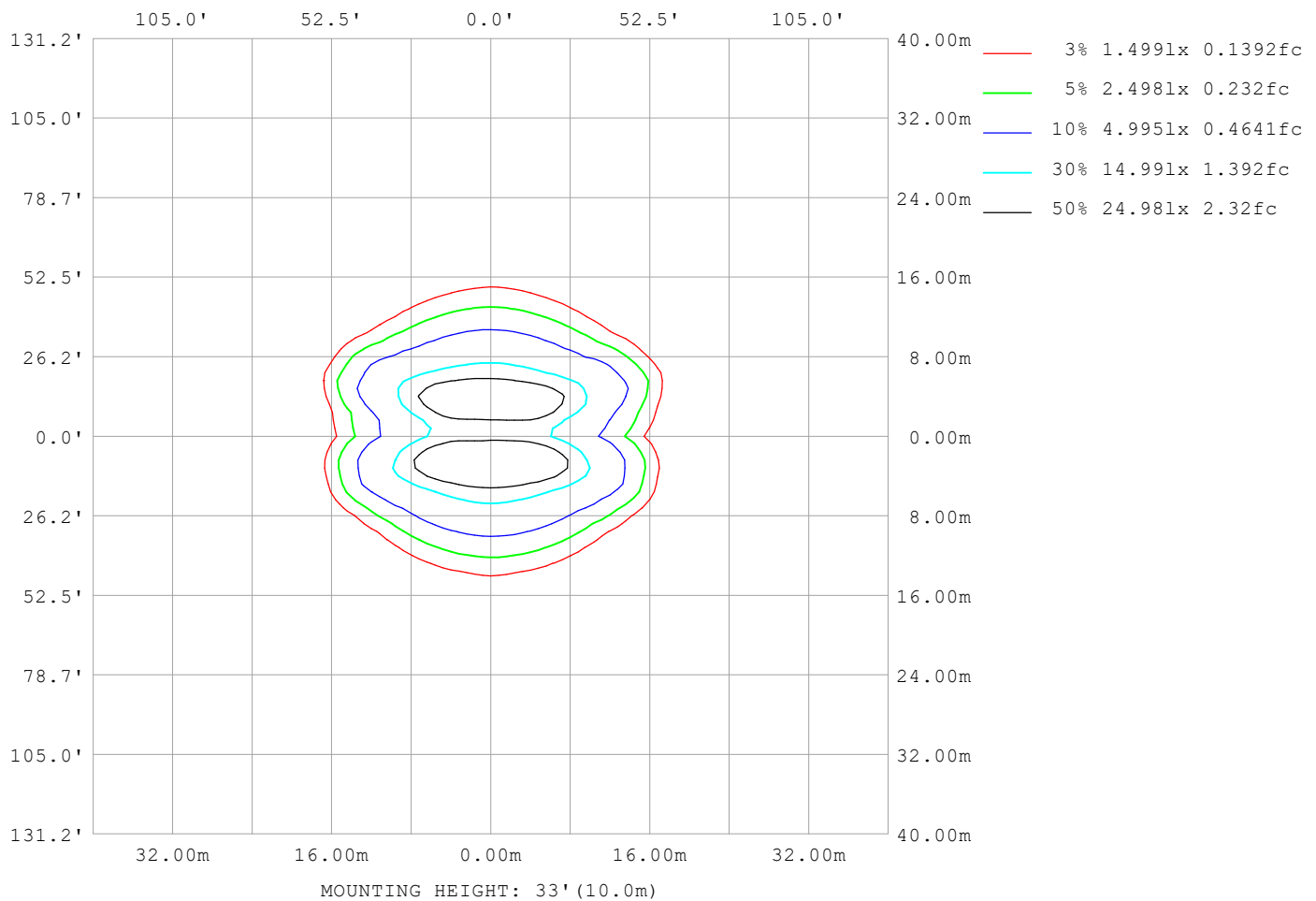
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25℃
 Operators:LI
 Test Date:2025-10-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
 Humidity:65.0%
 Test Distance:8.300m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:229.42V I:0.255A P:57.6W PF:0.986 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:11086x1 lm		
NAME: 2853-RL20*90D*RL20-4080		
SPEC.: VS ECXe 350.619 (187326)		
MFR.: SOTEN		



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25°C
 Operators: LI
 Test Date: 2025-10-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.485
 Humidity: 65.0%
 Test Distance: 8.300m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:229.42V I:0.255A P:57.6W PF:0.986 Freq:49.99Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:11086x1 lm		
NAME: 2853-RL20*90D*RL20-4080		
SPEC.: VS ECXe 350.619 (187326)		
MFR.: SOTEN		

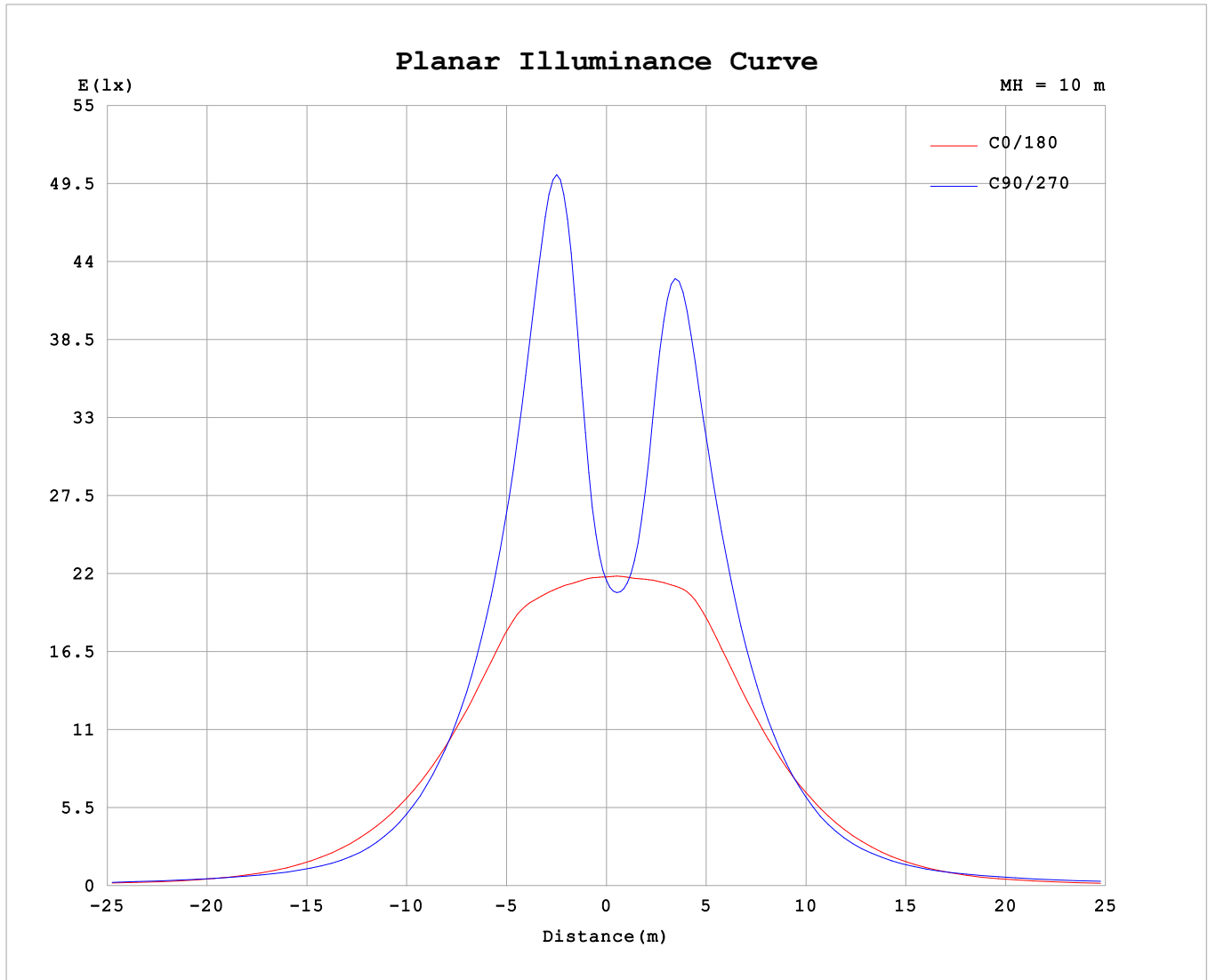
AvgL	cd/m2
L_0~180 (65) av	10613
L_0~180 (75) av	8660
L_0~180 (85) av	7882
L_90~270 (65) av	13803
L_90~270 (75) av	13634
L_90~270 (85) av	19620
L_45 (65) av	12233
L_45 (75) av	10088
L_45 (85) av	9934

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25℃
 Operators: LI
 Test Date: 2025-10-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.485
 Humidity: 65.0%
 Test Distance: 8.300m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25°C
Operators: LI
Test Date: 2025-10-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Humidity: 65.0%
Test Distance: 8.300m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Humidity:65.0%
Test Distance:8.300m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.485
Humidity:65.0%
Test Distance:8.300m [K=1.0000]
Remarks:

```