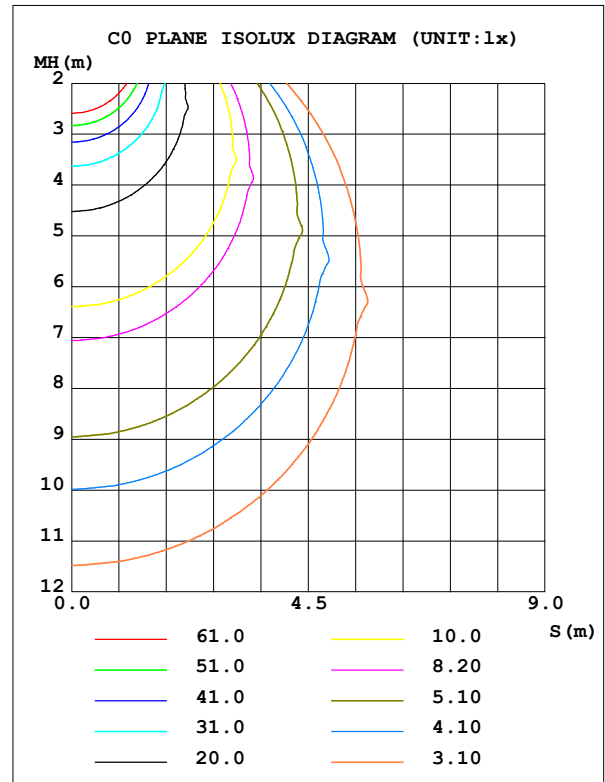
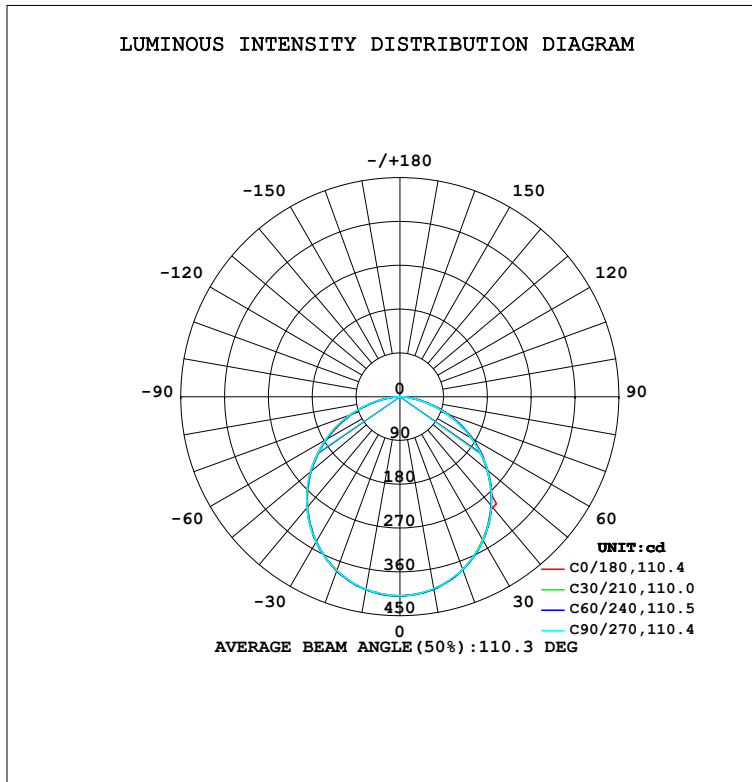


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:229.90V I:0.0550A P:12.400W PF:0.9830 Freq:50.00Hz Lamp Flux:1138.26x1 lm		
NAME: SLED415F-W1S1P-TWD12 4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 91.80 lm/W
MODEL		I _{max} (cd)	409.2	S/MH (C0/180)		1.25
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)		1.25
RATED VOLTAGE (V)		TOTAL FLUX (lm)	1138.3	η UP,DN (C0-180)		0.0,49.6
NOMINAL FLUX (lm)	1138.26	CIE CLASS	DIRECT	η UP,DN (C180-360)		0.0,50.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM		1.25
TEST VOLTAGE (V)		η down (%)	100.0	CIBSE SHR MAX		1.35



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:08 September 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-i300_v1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:3.160m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

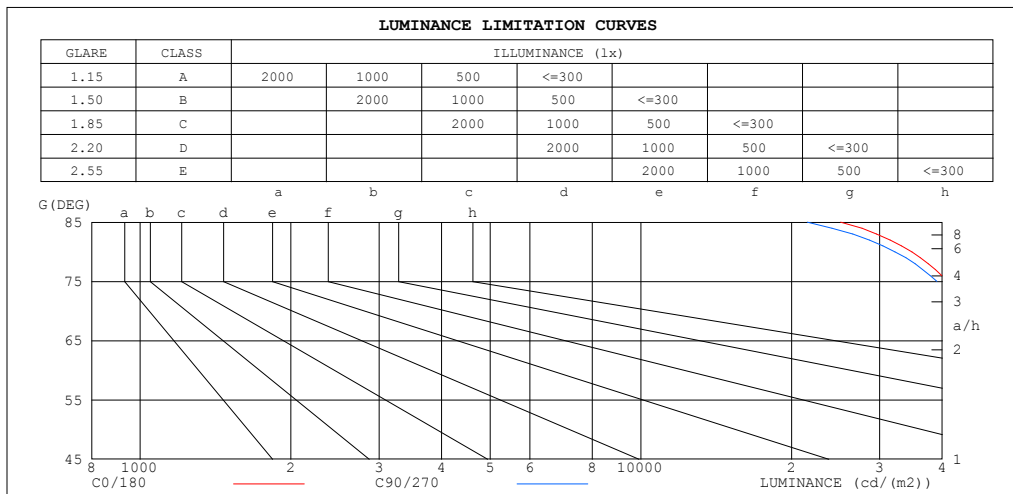
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	401.0	401.1	400.1	401.4	401.8	402.4	401.8	401.9	0- 10	38.67	38.67	3.4,3.4
20	378.1	377.3	377.3	378.9	379.6	380.1	379.9	379.4	10- 20	110.6	149.3	13.1,13.1
30	341.1	340.1	340.5	342.6	343.3	344.3	344.6	343.8	20- 30	167.0	316.3	27.8,27.8
40	297.4	291.6	292.4	294.7	295.7	296.5	297.2	295.9	30- 40	200.1	516.4	45.4,45.4
50	235.5	233.7	234.4	236.7	237.7	239.4	240.1	238.7	40- 50	205.9	722.3	63.5,63.5
60	172.7	169.9	169.5	172.7	173.2	175.1	176.5	174.5	50- 60	183.8	906.1	79.6,79.6
70	105.2	102.3	101.5	104.4	105.1	108.1	109.8	107.0	60- 70	137.9	1044	91.7,91.7
80	41.09	38.88	37.90	40.21	40.73	42.86	43.90	41.58	70- 80	76.36	1120	98.4,98.4
90	0.0254	0.0221	0.0275	0.0820	0.1801	0.1756	0.1341	0.0326	80- 90	17.87	1138	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		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:08 September 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-i300_v1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:3.160m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:229.90V I:0.0550A P:12.400W PF:0.9830 Freq:50.00Hz Lamp Flux:1138.26x1 lm		
NAME: SLED415F-W1S1P-TWD12 4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	25056	21500
80	34801	32174
75	40899	39014
70	45229	43737
65	48351	47237
60	50810	49956
55	52737	52062
50	53889	53752
45	55165	55080

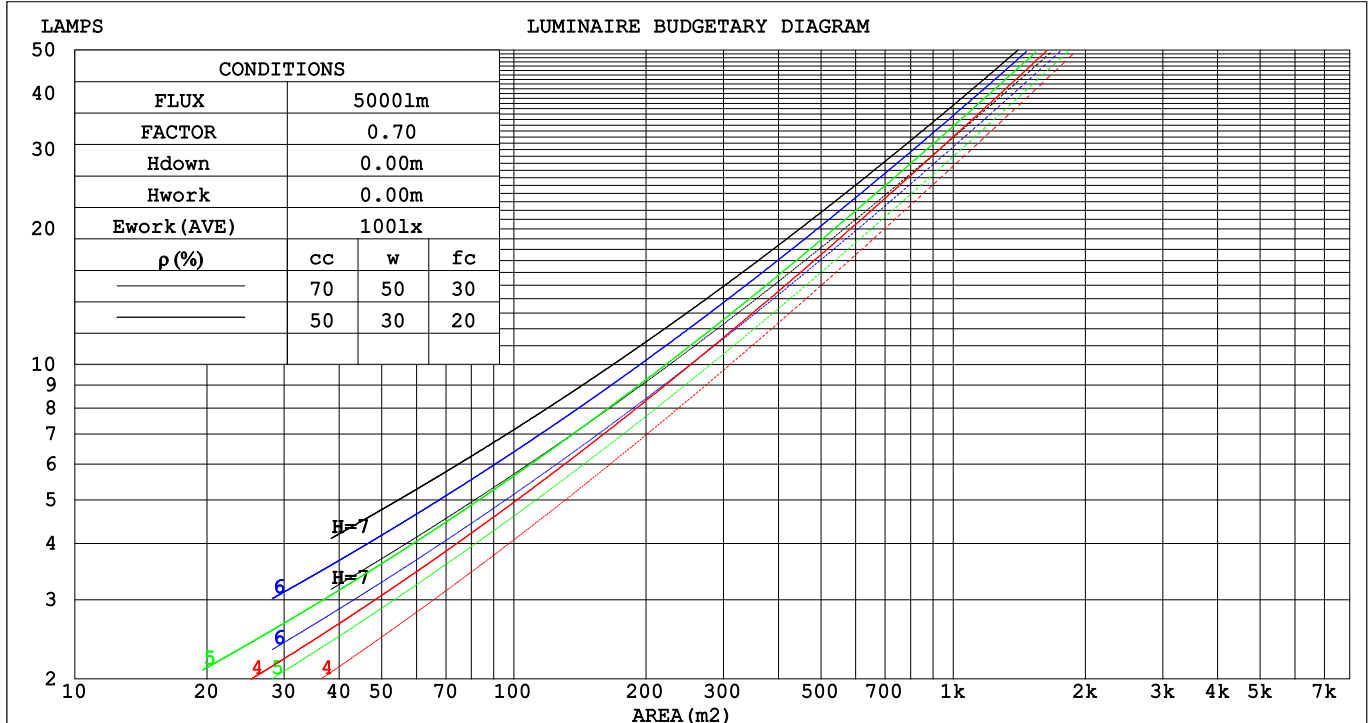
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Jason
 Test Date: 08 September 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-i300_V1 SYSTEM V2.0.401
 Humidity: 65.0%
 Test Distance: 3.160m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:229.90V I:0.0550A P:12.400W PF:0.9830 Freq:50.00Hz Lamp Flux:1138.26x1 lm		
NAME: SLED415F-W1S1P-TWD12 4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	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	1.04	.00	.96	1.02	.98	.95	.98	.94	.92	.94	.91	.89	.90	.88	.86	.84														
2.0	.91	.84	.78	.89	.83	.77	.85	.80	.76	.82	.78	.74	.79	.75	.72	.70														
3.0	.80	.72	.65	.78	.71	.65	.75	.69	.63	.72	.67	.62	.70	.65	.61	.59														
4.0	.71	.62	.55	.69	.61	.55	.67	.60	.54	.65	.58	.53	.62	.57	.53	.50														
5.0	.63	.54	.48	.62	.54	.47	.60	.52	.47	.58	.51	.46	.56	.50	.46	.44														
6.0	.57	.48	.42	.56	.47	.41	.54	.47	.41	.52	.46	.41	.51	.45	.40	.38														
7.0	.52	.43	.37	.51	.42	.37	.49	.42	.36	.48	.41	.36	.46	.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	.26	.37	.31	.26	.36	.31	.26	.24														



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:08 September 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-i300_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:3.160m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:229.90V I:0.0550A P:12.400W PF:0.9830 Freq:50.00Hz Lamp Flux:1138.26x1 lm																	
NAME: SLED415F-W1S1P-TWD12 4K									TYPE:						WEIGHT:		
SPEC.:									DIM.:						SERIAL No.:		
MFR.: Switch Lighting									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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.304	.173	.055	.297	.170	.054	.284	.163	.052	.272	.157	.050	.261	.151	.049	
2.0	.288	.158	.048	.282	.155	.048	.270	.150	.047	.259	.145	.046	.249	.141	.044	
3.0	.267	.142	.043	.262	.140	.042	.251	.136	.041	.242	.133	.041	.233	.129	.040	
4.0	.247	.128	.038	.242	.127	.037	.233	.124	.037	.225	.121	.036	.217	.118	.036	
5.0	.229	.117	.034	.224	.115	.034	.216	.113	.033	.209	.110	.033	.202	.108	.032	
6.0	.212	.106	.030	.209	.105	.030	.201	.103	.030	.195	.101	.030	.188	.099	.029	
7.0	.198	.098	.028	.194	.097	.028	.188	.095	.027	.182	.093	.027	.176	.092	.027	
8.0	.185	.090	.025	.182	.090	.025	.176	.088	.025	.171	.086	.025	.165	.085	.025	
9.0	.173	.084	.023	.171	.083	.023	.165	.082	.023	.160	.080	.023	.156	.079	.023	
10.0	.163	.078	.022	.161	.078	.022	.156	.076	.022	.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	.180	.156	.135	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015		
2.0	.172	.132	.098	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011		
3.0	.164	.114	.075	.141	.099	.065	.097	.068	.045	.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	.091	.047	.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: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:08 September 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-i300_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:3.160m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:229.90V I:0.0550A P:12.400W PF:0.9830 Freq:50.00Hz Lamp Flux:1138.26x1 lm											
NAME: SLED415F-W1S1P-TWD12 4K					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.: Switch Lighting					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	26.1	27.6	26.4	27.8	28.0	26.1	27.6	26.4	27.8	28.0	
	3H	27.6	29.0	27.9	29.2	29.4	27.5	28.9	27.8	29.1	29.4
	4H	28.1	29.4	28.4	29.7	29.9	28.0	29.4	28.4	29.6	29.9
	6H	28.5	29.7	28.8	30.0	30.3	28.4	29.6	28.7	29.9	30.2
	8H	28.6	29.8	28.9	30.1	30.4	28.5	29.7	28.8	29.9	30.2
	12H	28.6	29.8	29.0	30.1	30.4	28.5	29.6	28.8	29.9	30.2
4H	2H	26.7	28.0	27.0	28.3	28.5	26.7	28.0	27.0	28.3	28.5
	3H	28.3	29.5	28.6	29.8	30.1	28.3	29.4	28.6	29.7	30.0
	4H	29.0	30.0	29.3	30.3	30.7	28.9	30.0	29.3	30.3	30.6
	6H	29.4	30.4	29.8	30.7	31.1	29.4	30.3	29.8	30.7	31.0
	8H	29.6	30.5	30.0	30.8	31.2	29.5	30.4	29.9	30.7	31.1
	12H	29.6	30.5	30.1	30.8	31.2	29.6	30.4	30.0	30.7	31.2
8H	4H	29.2	30.1	29.6	30.4	30.8	29.2	30.0	29.6	30.4	30.8
	6H	29.8	30.5	30.2	30.9	31.3	29.7	30.5	30.2	30.9	31.3
	8H	30.0	30.6	30.4	31.1	31.5	29.9	30.6	30.4	31.0	31.5
	12H	30.1	30.7	30.6	31.1	31.6	30.0	30.6	30.5	31.0	31.5
12H	4H	29.2	30.0	29.6	30.4	30.8	29.2	30.0	29.6	30.4	30.8
	6H	29.8	30.5	30.3	30.9	31.3	29.8	30.4	30.2	30.8	31.3
	8H	30.0	30.6	30.5	31.1	31.5	30.0	30.6	30.5	31.0	31.5
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					

CIE Pub.117, 1138 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.4)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:08 September 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-i300_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:3.160m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:229.90V I:0.0550A P:12.400W PF:0.9830 Freq:50.00Hz Lamp Flux:1138.26x1 lm		
NAME: SLED415F-W1S1P-TWD12 4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:

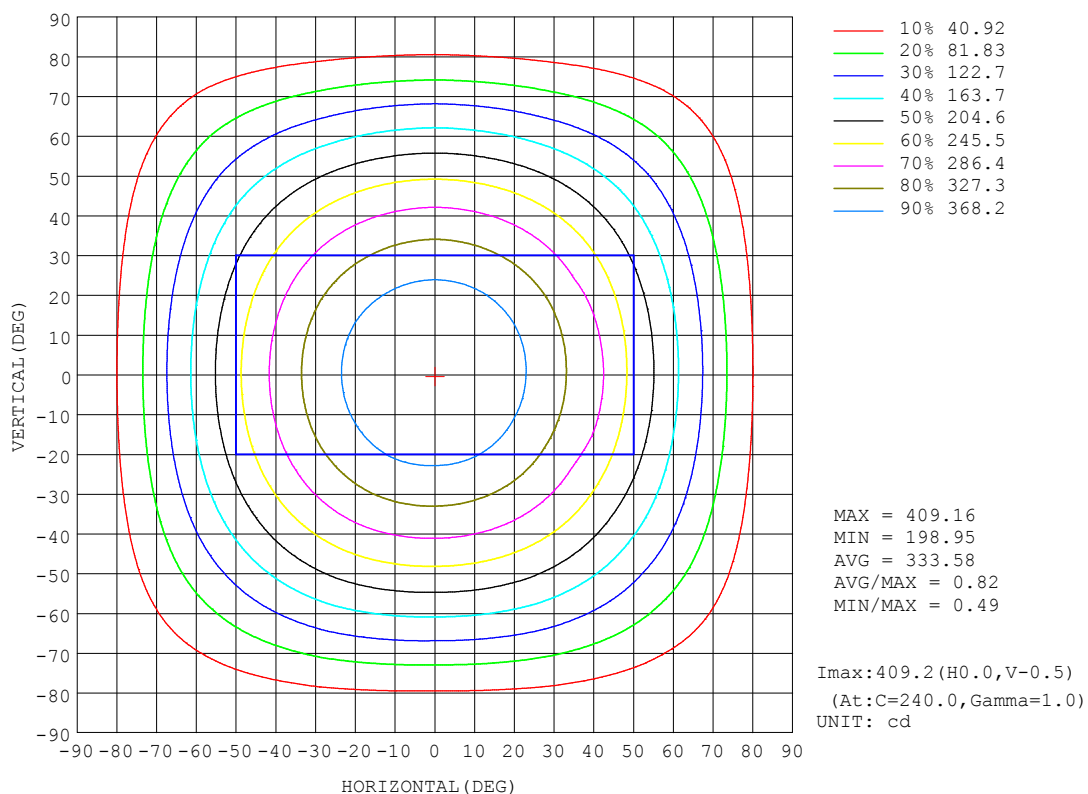
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	46	39	57	46	39	56	46	39	33
0.80	68	56	49	67	56	49	65	55	49	42
1.00	76	65	58	75	65	58	73	66	57	50
1.25	84	73	66	82	72	66	79	71	65	58
1.50	88	79	72	87	78	71	84	76	70	63
2.00	95	87	81	93	86	80	90	83	78	70
2.50	99	92	86	97	90	85	93	87	83	75
3.00	103	96	90	100	94	89	96	91	87	79
4.00	106	101	96	104	99	95	100	96	92	83
5.00	109	104	100	106	102	99	102	99	96	86
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:08 September 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-i300_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:3.160m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:229.90V I:0.0550A P:12.400W PF:0.9830 Freq:50.00Hz Lamp Flux:1138.26x1 lm		
NAME: SLED415F-W1S1P-TWD12 4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:

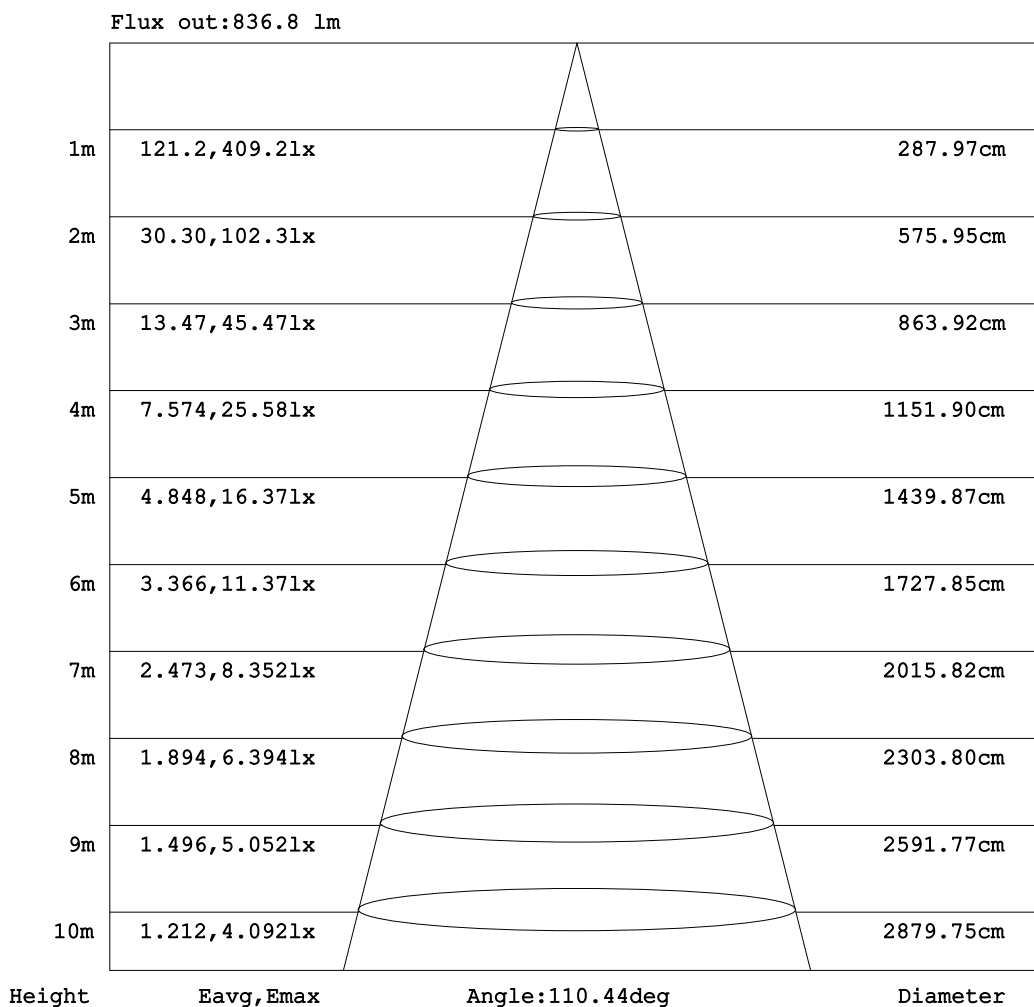


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jason
Test Date: 08 September 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-i300_v1 SYSTEM V2.0.401
Humidity: 65.0%
Test Distance: 3.160m [K=1.0000]
Remarks:

AAI Figure

Test:U:229.90V I:0.0550A P:12.400W PF:0.9830 Freq:50.00Hz Lamp Flux:1138.26x1 lm		
NAME: SLED415F-W1S1P-TWD12 4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:



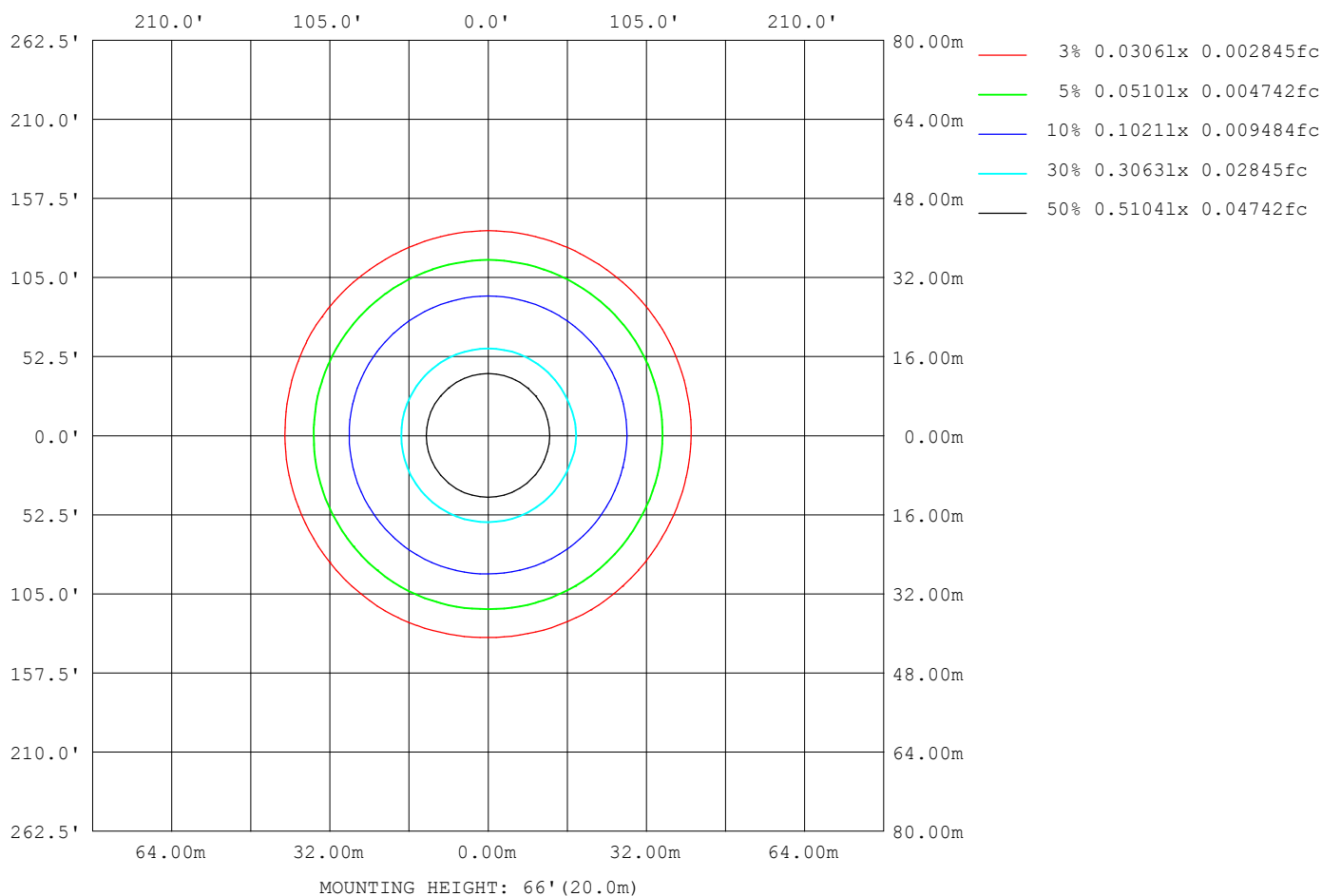
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jason
 Test Date:08 September 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-i300_V1 SYSTEM V2.0.401
 Humidity:65.0%
 Test Distance:3.160m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:229.90V I:0.0550A P:12.400W PF:0.9830 Freq:50.00Hz Lamp Flux:1138.26x1 lm		
NAME: SLED415F-W1S1P-TWD12 4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:08 September 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-i300_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:3.160m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:229.90V I:0.0550A P:12.400W PF:0.9830 Freq:50.00Hz Lamp Flux:1138.26x1 lm		
NAME: SLED415F-W1S1P-TWD12 4K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:

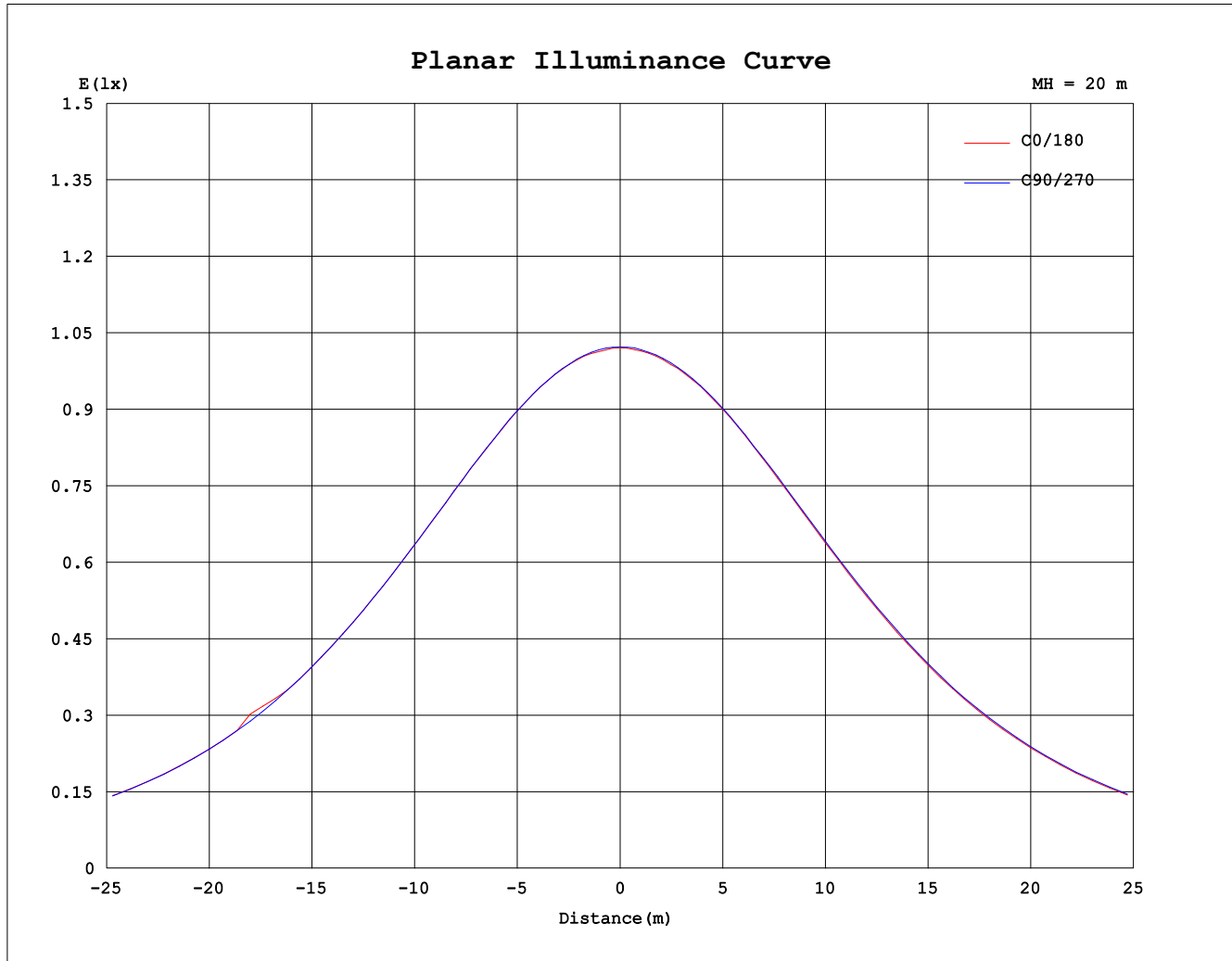
AvgL	cd/m2
L_0~180 (65) av	48465
L_0~180 (75) av	40863
L_0~180 (85) av	24730
L_90~270 (65) av	48671
L_90~270 (75) av	41042
L_90~270 (85) av	24738
L_45 (65) av	48624
L_45 (75) av	41021
L_45 (85) av	24705

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:08 September 2020

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-i300_V1 SYSTEM V2.0.401
Humidity:65.0%
Test Distance:3.160m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Jason
 Test Date: 08 September 2020

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-i300_V1 SYSTEM V2.0.401
 Humidity: 65.0%
 Test Distance: 3.160m [K=1.0000]
 Remarks:

```

γ Range: 0 - 90DEG
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Remarks:

```