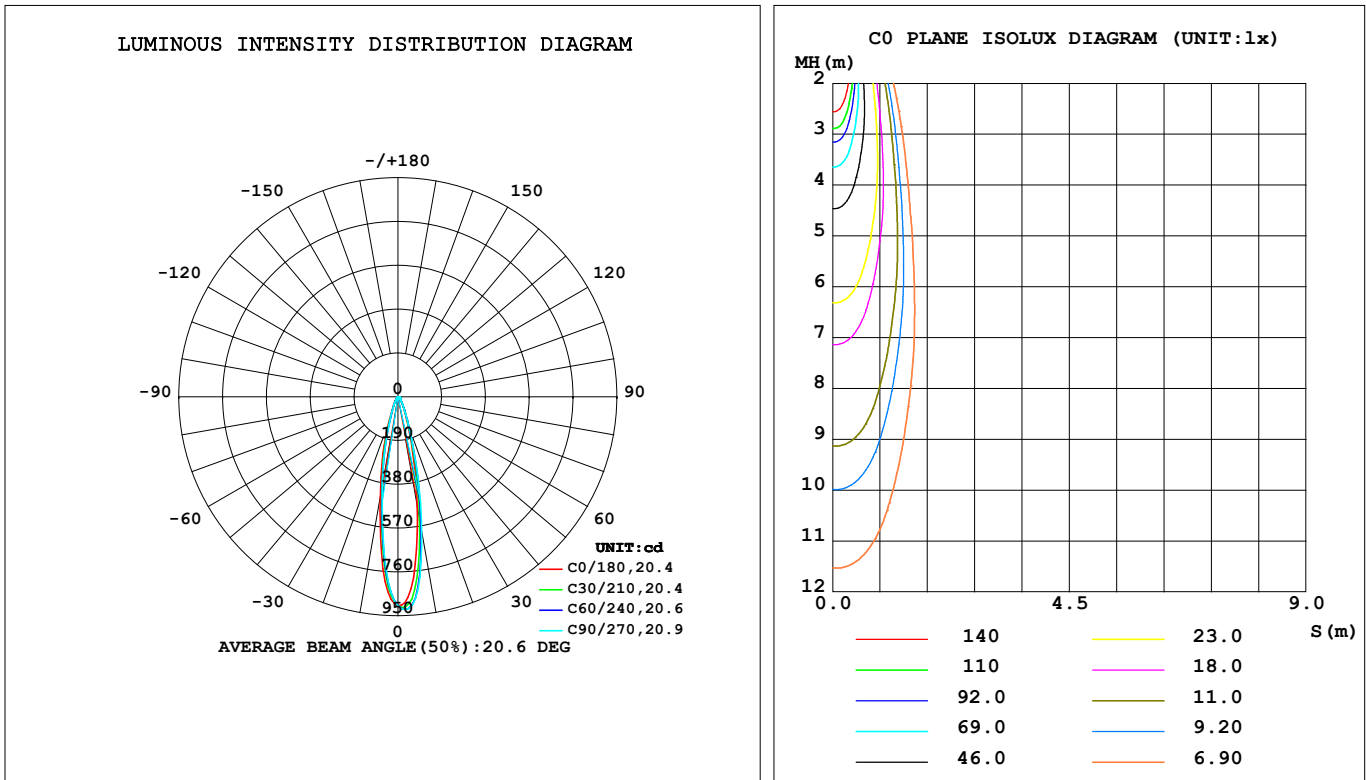


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.10V I:0.0350A P:5.1000W PF:0.6370 Freq:50.00Hz Lamp Flux:197.268x1 lm		
NAME: SL224-15-R-N-Q4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 38.68 lm/W
MODEL		I _{max} (cd)	923.4	S/MH (C0/180)		0.33
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)		0.30
RATED VOLTAGE (V)		TOTAL FLUX (lm)	197.27	η UP,DN (C0-180)		0.0,57.8
NOMINAL FLUX (lm)	197.268	CIE CLASS	DIRECT	η UP,DN (C180-360)		0.0,42.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM		0.00
TEST VOLTAGE (V)		η down (%)	100.0	CIBSE SHR MAX		1.00



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jason
Test Date: 27 May 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:

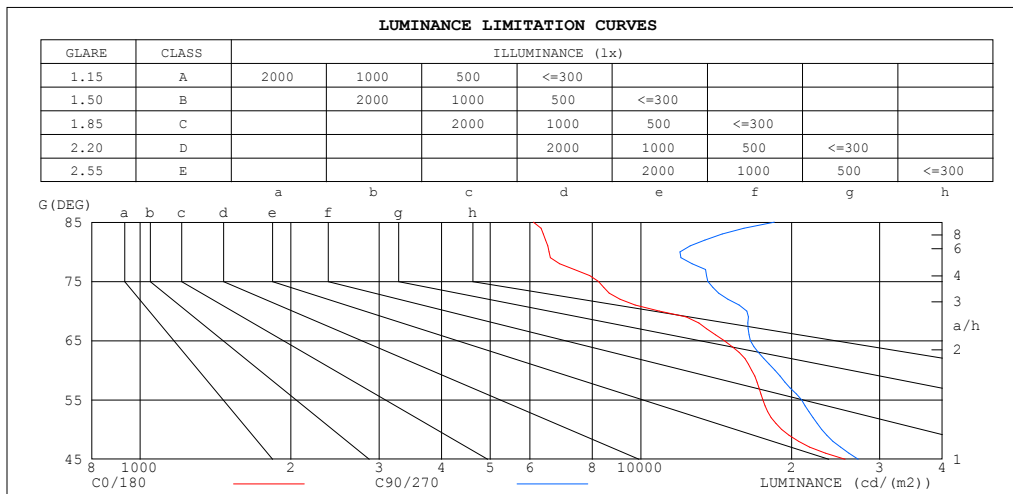
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	484.6	559.9	592.9	512.4	441.4	399.1	392.8	419.3	0- 10	63.57	63.57	32.2,32.2
20	126.5	139.7	145.2	130.9	116.0	96.01	95.09	106.7	10- 20	70.32	133.9	67.9,67.9
30	42.10	46.65	45.74	37.52	31.36	27.13	26.34	31.66	20- 30	29.90	163.8	83,83
40	18.38	20.11	19.46	17.30	13.06	10.08	9.239	11.29	30- 40	14.42	178.2	90.3,90.3
50	8.571	10.32	10.47	10.84	7.342	5.002	3.832	5.399	40- 50	8.192	186.4	94.5,94.5
60	5.808	6.365	6.571	7.791	5.569	2.725	0.6354	1.206	50- 60	5.524	191.9	97.3,97.3
70	2.600	3.645	3.948	4.379	2.881	0.4294	0.2192	0.3607	60- 70	3.285	195.2	99,99
80	0.7943	1.584	1.475	1.543	0.6204	0.0494	0	0.0491	70- 80	1.508	196.7	99.7,99.7
90	0	0.5306	0.7381	0.5813	0.0451	0.0029	0	0.0004	80- 90	0.5472	197.3	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:27 May 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:230.10V I:0.0350A P:5.1000W PF:0.6370 Freq:50.00Hz Lamp Flux:197.268x1 lm		
NAME: SL224-15-R-N-Q4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	6103	18472
80	6557	11978
75	8223	13617
70	10896	16277
65	14665	16552
60	16650	18531
55	17536	20944
50	19111	22976
45	25584	27196

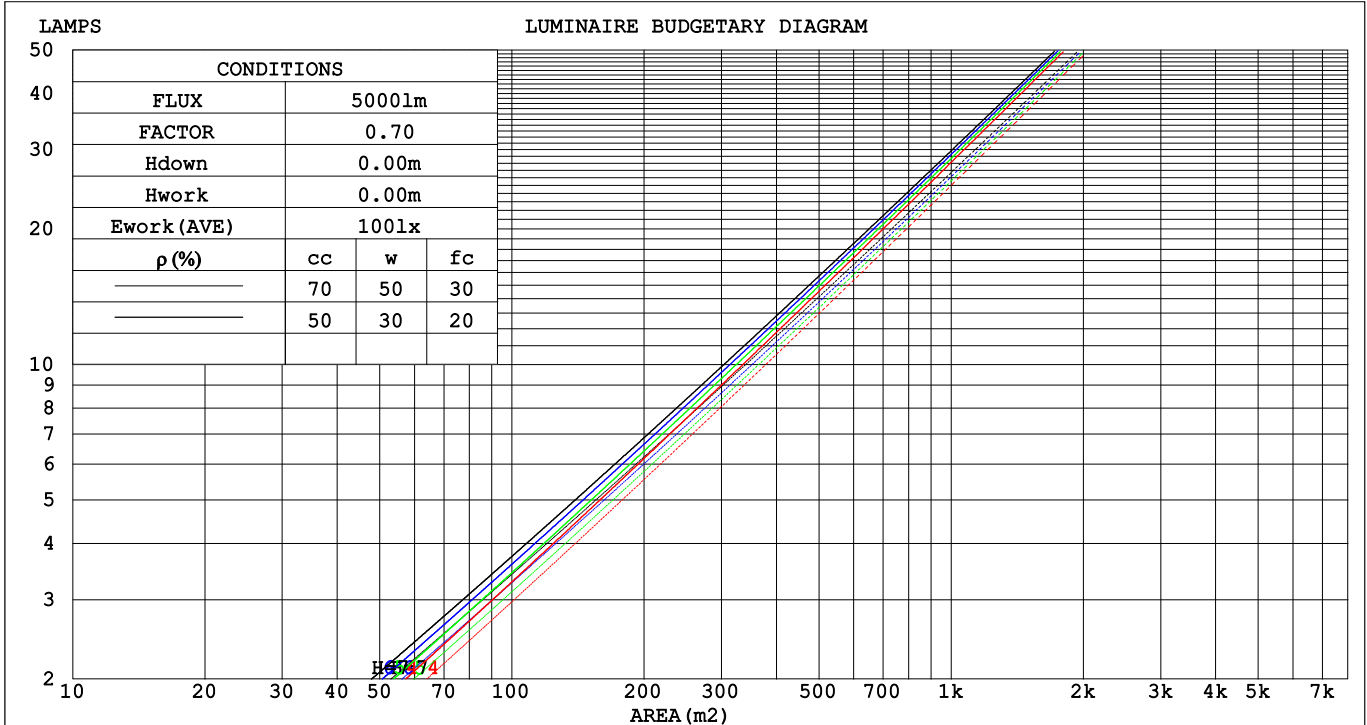
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:27 May 2020

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:230.10V I:0.0350A P:5.1000W PF:0.6370 Freq:50.00Hz Lamp Flux:197.268x1 lm		
NAME: SL224-15-R-N-Q4	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	1.12	1.09	1.07	1.09	1.07	1.06	1.05	1.04	1.02	1.02	1.01	.99	.98	.97	.97	.95
2.0	1.05	1.02	.99	1.03	1.00	.98	1.00	.98	.95	.97	.95	.93	.95	.93	.91	.90
3.0	.00	.95	.92	.98	.94	.91	.96	.92	.90	.93	.91	.88	.91	.89	.87	.86
4.0	.95	.90	.86	.94	.89	.86	.92	.88	.85	.90	.87	.84	.88	.85	.83	.82
5.0	.90	.86	.82	.90	.85	.82	.88	.84	.81	.86	.83	.80	.85	.82	.80	.78
6.0	.87	.82	.78	.86	.81	.78	.85	.81	.78	.83	.80	.77	.82	.79	.77	.75
7.0	.83	.78	.75	.83	.78	.75	.82	.77	.75	.80	.77	.74	.79	.76	.74	.73
8.0	.80	.76	.72	.80	.75	.72	.79	.75	.72	.78	.74	.72	.77	.74	.71	.70
9.0	.78	.73	.70	.77	.73	.70	.76	.72	.69	.76	.72	.69	.75	.71	.69	.68
10.0	.75	.71	.67	.75	.70	.67	.74	.70	.67	.73	.70	.67	.73	.69	.67	.66



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:27 May 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:230.10V I:0.0350A P:5.1000W PF:0.6370 Freq:50.00Hz Lamp Flux:197.268x1 lm																	
NAME: SL224-15-R-N-Q4									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	.161	.092	.029	.154	.088	.028	.142	.081	.026	.130	.075	.024	.120	.069	.022	
2.0	.151	.082	.025	.145	.080	.025	.135	.075	.023	.125	.070	.022	.116	.066	.021	
3.0	.140	.075	.022	.136	.073	.022	.127	.069	.021	.119	.065	.020	.111	.062	.019	
4.0	.131	.068	.020	.127	.067	.020	.120	.064	.019	.113	.061	.018	.107	.058	.018	
5.0	.123	.063	.018	.120	.062	.018	.114	.059	.017	.108	.057	.017	.102	.054	.016	
6.0	.116	.058	.017	.113	.057	.016	.108	.055	.016	.102	.053	.016	.098	.051	.015	
7.0	.110	.054	.015	.107	.053	.015	.102	.052	.015	.098	.050	.015	.094	.049	.014	
8.0	.104	.051	.014	.102	.050	.014	.098	.049	.014	.094	.047	.014	.090	.046	.013	
9.0	.099	.048	.013	.097	.047	.013	.093	.046	.013	.090	.045	.013	.086	.044	.013	
10.0	.094	.045	.013	.093	.045	.012	.089	.044	.012	.086	.043	.012	.083	.042	.012	

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	.170	.157	.146	.145	.135	.126	.100	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.115	.131	.114	.100	.090	.079	.069	.052	.046	.041	.017	.015	.013	
3.0	.140	.113	.093	.120	.098	.080	.082	.068	.056	.047	.040	.033	.015	.013	.011	
4.0	.128	.098	.076	.110	.085	.066	.075	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.118	.086	.063	.101	.075	.055	.070	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.109	.077	.053	.094	.066	.046	.065	.046	.033	.038	.027	.019	.012	.009	.006	
7.0	.102	.069	.045	.088	.059	.040	.061	.042	.028	.035	.025	.017	.011	.008	.006	
8.0	.095	.062	.039	.082	.054	.034	.057	.038	.024	.033	.022	.014	.011	.007	.005	
9.0	.090	.056	.034	.077	.049	.030	.054	.034	.021	.031	.020	.013	.010	.007	.004	
10.0	.085	.052	.030	.073	.045	.026	.051	.032	.019	.030	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:27 May 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:230.10V I:0.0350A P:5.1000W PF:0.6370 Freq:50.00Hz Lamp Flux:197.268x1 lm											
NAME: SL224-15-R-N-Q4					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	2H	24.5	25.3	24.7	25.4	25.6	24.9	25.7	25.1	25.9	26.0
	3H	25.2	25.9	25.5	26.1	26.3	25.9	26.7	26.2	26.9	27.1
	4H	25.4	26.1	25.7	26.3	26.5	26.4	27.0	26.6	27.3	27.5
	6H	25.5	26.2	25.8	26.4	26.7	26.6	27.3	26.9	27.5	27.7
	8H	25.6	26.2	25.9	26.5	26.7	26.7	27.4	27.0	27.6	27.9
	12H	25.6	26.2	25.9	26.5	26.7	26.9	27.5	27.2	27.8	28.0
4H	2H	24.9	25.6	25.2	25.8	26.0	25.3	26.0	25.6	26.2	26.4
	3H	25.8	26.5	26.2	26.7	27.0	26.5	27.1	26.9	27.4	27.7
	4H	26.2	26.8	26.5	27.0	27.4	27.1	27.6	27.4	27.9	28.2
	6H	26.4	26.9	26.8	27.3	27.6	27.4	27.9	27.8	28.3	28.6
	8H	26.5	27.0	26.9	27.3	27.7	27.6	28.1	28.0	28.4	28.8
	12H	26.5	27.0	26.9	27.3	27.7	27.8	28.3	28.2	28.6	29.0
8H	4H	26.5	26.9	26.9	27.3	27.6	27.2	27.7	27.6	28.0	28.4
	6H	26.9	27.3	27.3	27.7	28.1	27.7	28.1	28.1	28.5	28.9
	8H	27.0	27.4	27.5	27.8	28.2	28.0	28.3	28.4	28.7	29.2
	12H	27.1	27.4	27.6	27.9	28.3	28.3	28.6	28.8	29.1	29.5
12H	4H	26.5	26.9	26.9	27.3	27.6	27.2	27.7	27.6	28.0	28.4
	6H	26.9	27.3	27.4	27.7	28.1	27.7	28.1	28.2	28.5	28.9
	8H	27.1	27.4	27.6	27.9	28.3	28.0	28.3	28.5	28.8	29.2
Variations with the observer position at spacings:											
S = 1.0H	+ 0.5 / - 0.6					+ 0.4 / - 0.5					
1.5H	+ 0.7 / - 0.8					+ 0.5 / - 0.3					
2.0H	+ 0.6 / - 0.5					+ 0.5 / - 0.5					

CIE Pub.117, 197.3 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = -5.6$)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason
Test Date:27 May 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:230.10V I:0.0350A P:5.1000W PF:0.6370 Freq:50.00Hz Lamp Flux:197.268x1 lm		
NAME: SL224-15-R-N-Q4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:

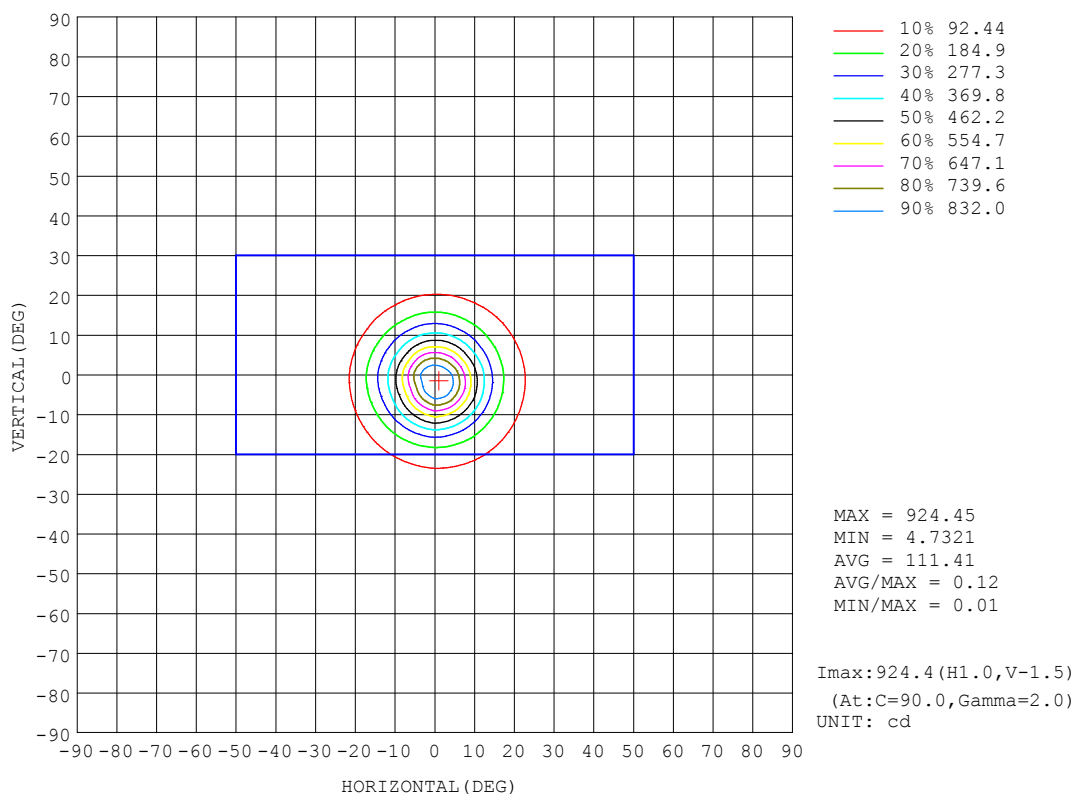
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	86	79	75	85	79	75	84	78	75	71
0.80	93	87	83	92	87	83	91	86	82	79
1.00	98	92	88	97	91	88	95	91	87	83
1.25	102	96	93	101	96	92	99	95	91	87
1.50	105	100	96	103	99	96	101	97	94	90
2.00	108	103	100	106	102	99	103	100	97	92
2.50	109	105	102	108	104	101	105	102	99	93
3.00	111	107	105	109	106	103	106	103	101	95
4.00	113	110	108	111	109	107	108	106	104	97
5.00	115	112	110	112	110	109	108	107	106	98
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:27 May 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:230.10V I:0.0350A P:5.1000W PF:0.6370 Freq:50.00Hz Lamp Flux:197.268x1 lm		
NAME: SL224-15-R-N-Q4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:

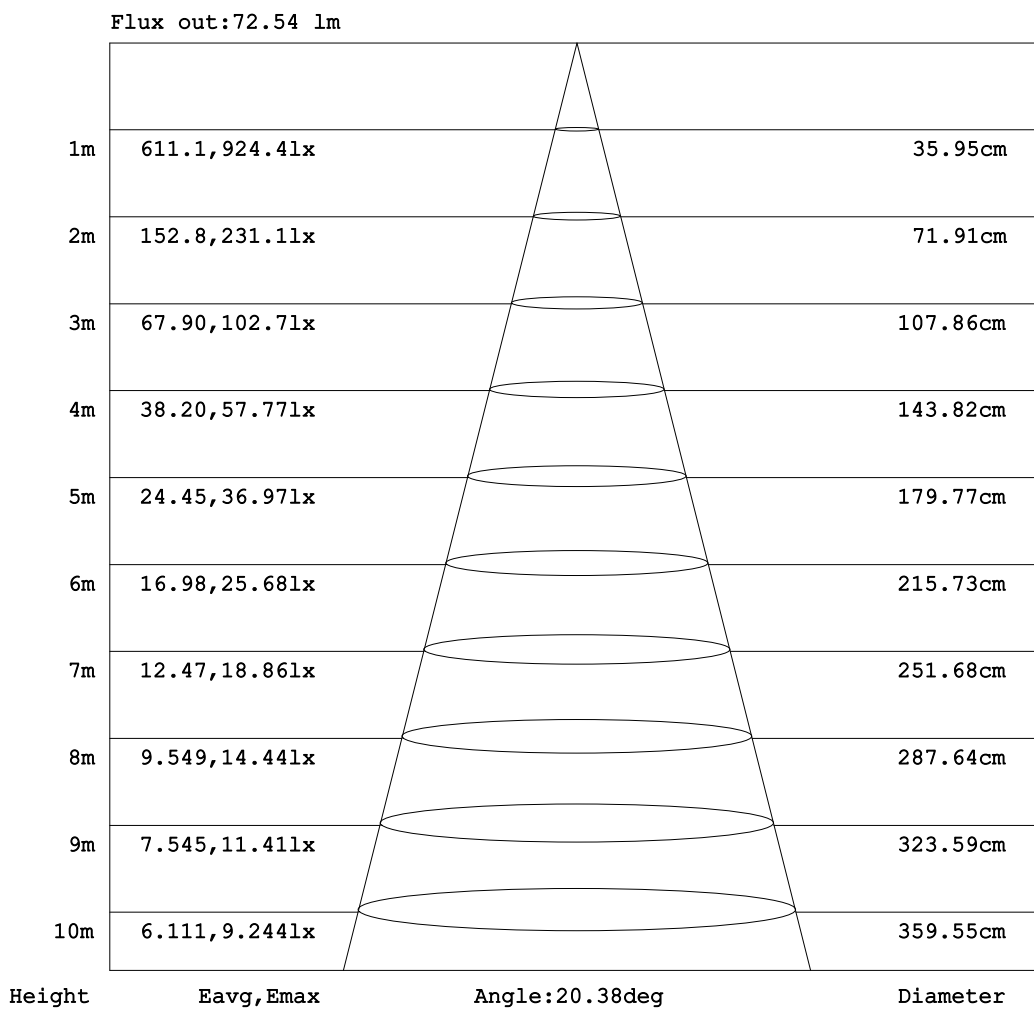


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jason
Test Date: 27 May 2020

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:230.10V I:0.0350A P:5.1000W PF:0.6370 Freq:50.00Hz Lamp Flux:197.268x1 lm		
NAME: SL224-15-R-N-Q4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:



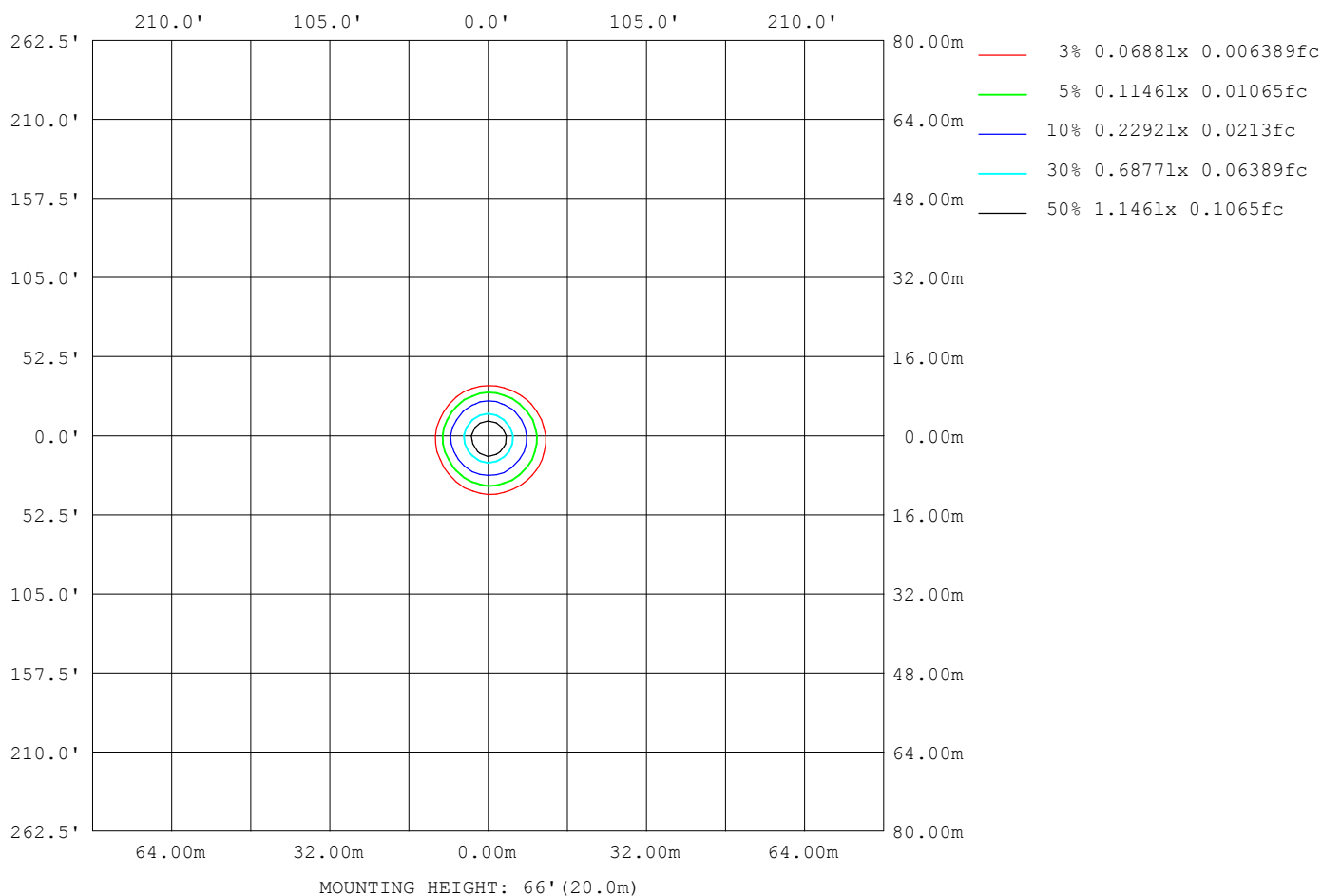
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jason
 Test Date:27 May 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:230.10V I:0.0350A P:5.1000W PF:0.6370 Freq:50.00Hz Lamp Flux:197.268x1 lm		
NAME: SL224-15-R-N-Q4	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:27 May 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:230.10V I:0.0350A P:5.1000W PF:0.6370 Freq:50.00Hz Lamp Flux:197.268x1 lm		
NAME: SL224-15-R-N-Q4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:

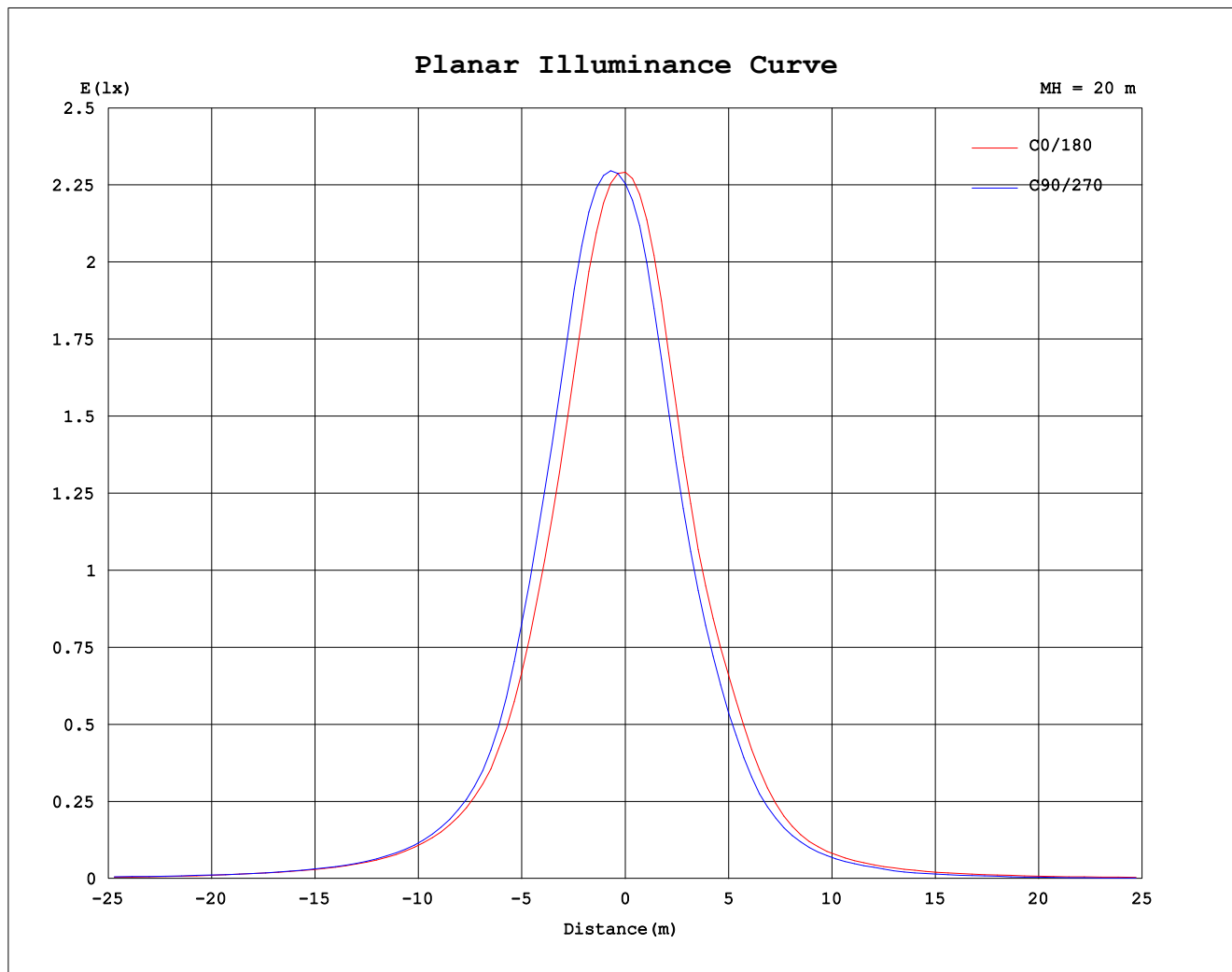
AvgL	cd/m2
L_0~180 (65) av	13838
L_0~180 (75) av	7333
L_0~180 (85) av	5591
L_90~270 (65) av	8870
L_90~270 (75) av	6848
L_90~270 (85) av	9268
L_45 (65) av	10723
L_45 (75) av	7872
L_45 (85) av	8687

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
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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: 27 May 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
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:

```