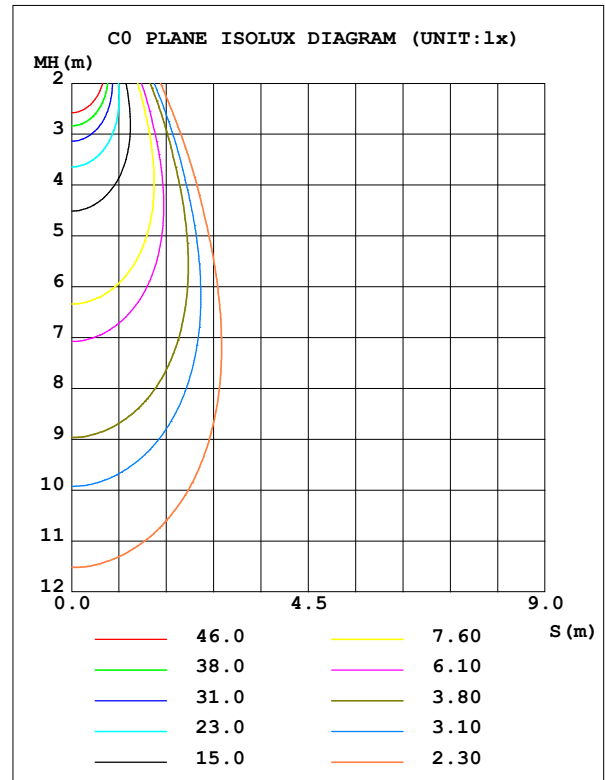
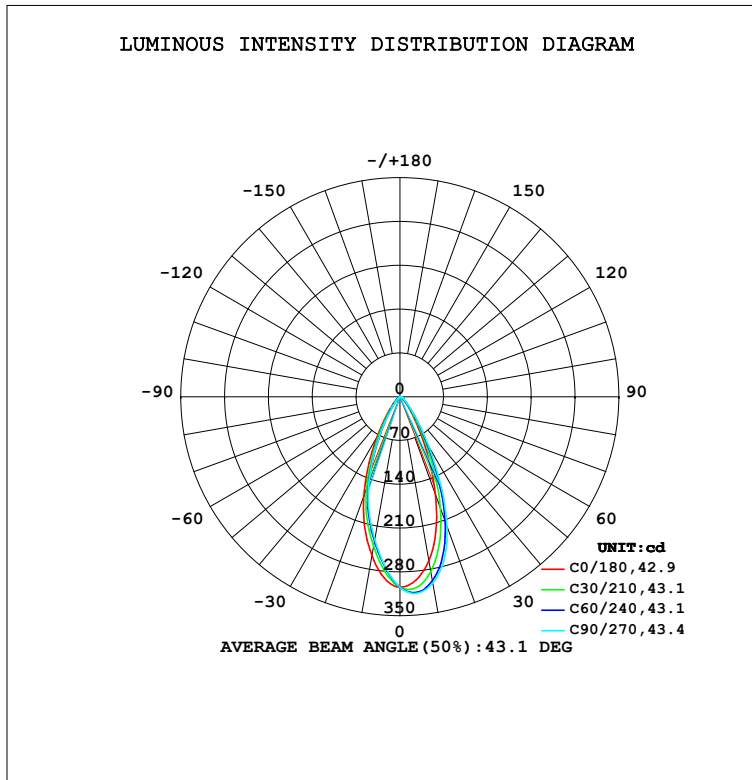


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.10V I:0.0350A P:5.1000W PF:0.6360 Freq:50.00Hz Lamp Flux:188.75lx1 lm		
NAME: SL224-40-R-N-Q4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 37.01 lm/W
MODEL		I <sub>max</sub> (cd)	315.2	S/MH (C0/180)		0.69
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)		0.61
RATED VOLTAGE (V)		TOTAL FLUX (lm)	188.75	η UP,DN (C0-180)		0.0,57.7
NOMINAL FLUX (lm)	188.751	CIE CLASS	DIRECT	η UP,DN (C180-360)		0.0,42.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM		0.50
TEST VOLTAGE (V)		η down (%)	100.0	CIBSE SHR MAX		0.70



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:

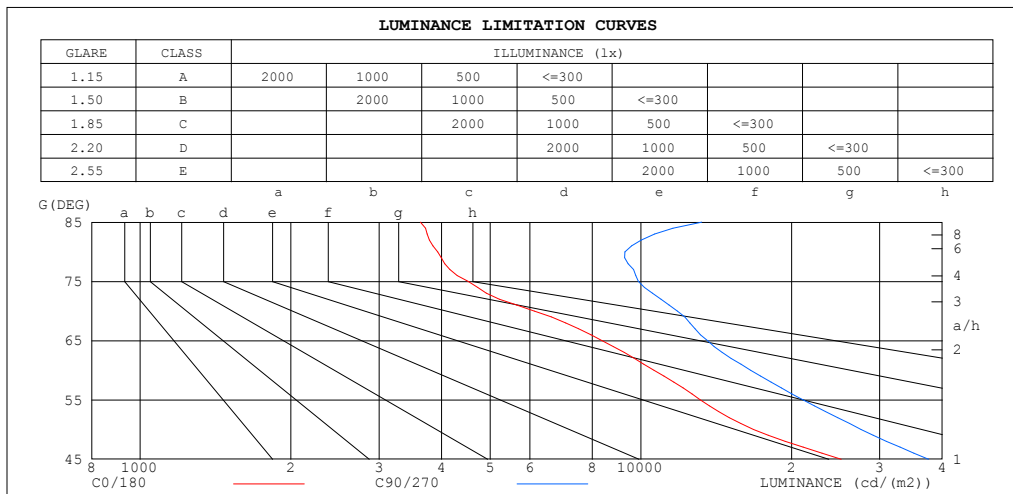
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
10	266.3	291.4	302.3	285.8	257.8	238.8	232.4	245.6	0- 10	27.07	27.07	14.3,14.3
20	167.1	200.4	219.9	208.5	169.4	151.4	145.0	156.3	10- 20	62.59	89.66	47.5,47.5
30	62.72	82.22	94.27	86.19	72.16	57.38	52.62	56.95	20- 30	54.70	144.4	76.5,76.5
40	20.96	26.85	30.50	28.48	22.72	15.88	13.34	15.08	30- 40	25.29	169.7	89.9,89.9
50	7.611	11.12	12.52	12.58	8.302	4.549	3.554	4.759	40- 50	10.35	180.0	95.4,95.4
60	3.742	5.394	5.857	6.447	3.595	1.555	0.6301	1.120	50- 60	4.992	185.0	98,98
70	1.477	2.516	2.860	3.095	1.307	0.2897	0.1300	0.2368	60- 70	2.359	187.4	99.3,99.3
80	0.4810	0.9421	1.142	1.268	0.3701	0.0254	0	0.0273	70- 80	1.012	188.4	99.8,99.8
90	0	0.3291	0.5225	0.4654	0.0094	0	0	0	80- 90	0.3805	188.8	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

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:0.6360 Freq:50.00Hz Lamp Flux:188.75lx1 lm		
NAME: SL224-40-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	3630	13235
80	3932	9300
75	4518	9891
70	6130	11829
65	8362	13585
60	10621	16568
55	13136	21068
50	16805	27549
45	25157	37599

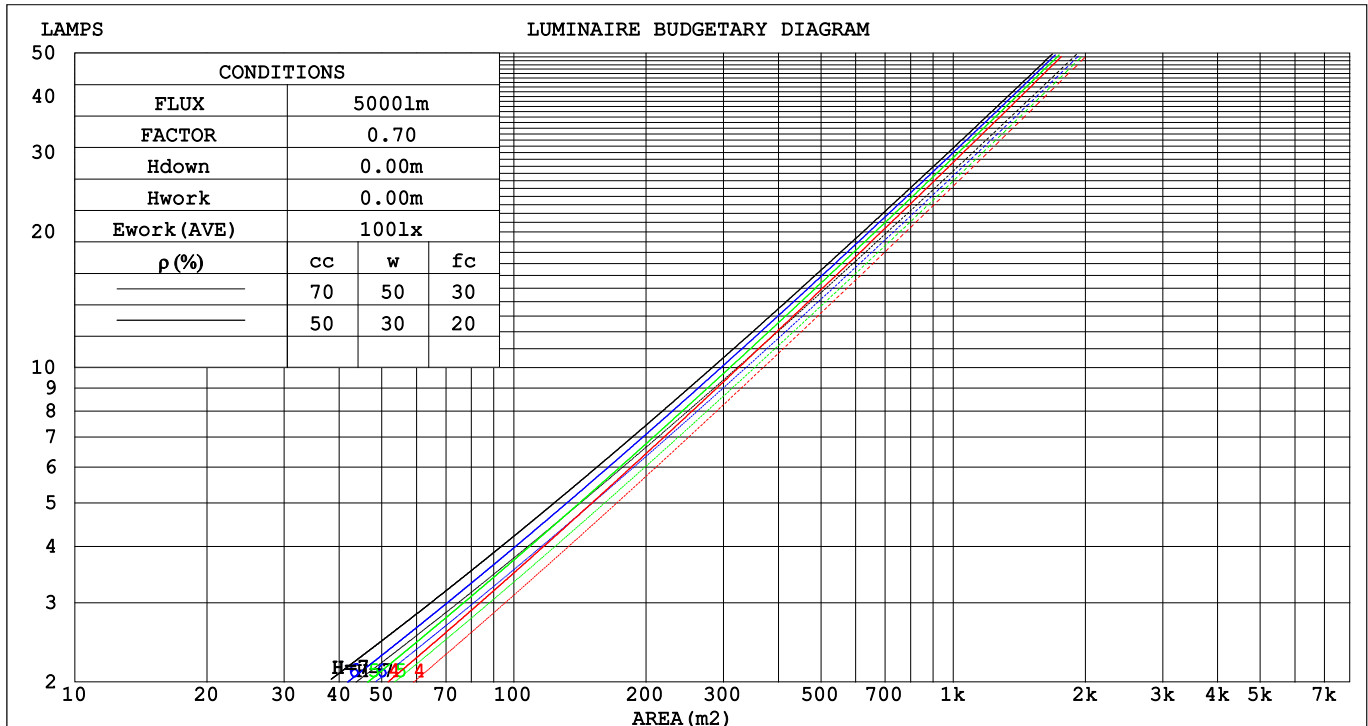
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Jason  
 Test Date: 27 May 2020

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:0.6360 Freq:50.00Hz Lamp Flux:188.75lx1 lm		
NAME: SL224-40-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															



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:0.6360 Freq:50.00Hz Lamp Flux:188.75lx1 lm																	
NAME: SL224-40-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	.178	.101	.032	.171	.098	.031	.159	.091	.029	.147	.085	.027	.136	.079	.026	
2.0	.169	.093	.028	.163	.090	.028	.153	.085	.026	.143	.080	.025	.134	.076	.024	
3.0	.160	.085	.025	.155	.083	.025	.146	.079	.024	.138	.076	.023	.130	.072	.022	
4.0	.151	.079	.023	.147	.077	.023	.140	.074	.022	.132	.071	.021	.126	.068	.021	
5.0	.144	.073	.021	.140	.072	.021	.133	.069	.020	.127	.067	.020	.121	.065	.019	
6.0	.136	.068	.020	.133	.067	.019	.127	.065	.019	.122	.063	.019	.117	.061	.018	
7.0	.130	.064	.018	.127	.063	.018	.122	.062	.018	.117	.060	.017	.112	.058	.017	
8.0	.124	.061	.017	.121	.060	.017	.117	.058	.017	.112	.057	.016	.108	.056	.016	
9.0	.118	.057	.016	.116	.057	.016	.112	.055	.016	.108	.054	.016	.104	.053	.015	
10.0	.113	.054	.015	.111	.054	.015	.108	.053	.015	.104	.052	.015	.101	.051	.015	

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	.171	.157	.145	.146	.135	.125	.100	.093	.086	.058	.054	.050	.018	.017	.016	
2.0	.156	.133	.113	.134	.114	.098	.091	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.143	.114	.090	.123	.098	.078	.084	.068	.055	.049	.040	.032	.016	.013	.011	
4.0	.133	.099	.073	.114	.085	.063	.078	.059	.045	.045	.035	.026	.015	.011	.009	
5.0	.124	.087	.060	.106	.075	.052	.073	.053	.037	.042	.031	.022	.014	.010	.007	
6.0	.116	.078	.050	.100	.067	.044	.069	.047	.031	.040	.028	.018	.013	.009	.006	
7.0	.109	.070	.043	.094	.061	.037	.065	.043	.026	.038	.025	.016	.012	.008	.005	
8.0	.103	.064	.037	.089	.055	.032	.062	.039	.023	.036	.023	.013	.012	.008	.004	
9.0	.098	.059	.032	.085	.051	.028	.059	.036	.020	.034	.021	.012	.011	.007	.004	
10.0	.094	.054	.028	.081	.047	.024	.056	.033	.017	.033	.020	.010	.011	.006	.003	

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:0.6360 Freq:50.00Hz Lamp Flux:188.75lx1 lm											
NAME: SL224-40-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	25.1	26.0	25.3	26.1	26.3	26.7	27.6	26.9	27.8	27.9
	3H	25.2	26.1	25.5	26.3	26.5	27.0	27.8	27.3	28.0	28.2
	4H	25.2	26.0	25.5	26.3	26.5	27.1	27.9	27.4	28.1	28.4
	6H	25.2	26.0	25.5	26.2	26.5	27.2	27.9	27.5	28.2	28.4
	8H	25.2	25.9	25.5	26.2	26.5	27.2	28.0	27.5	28.2	28.5
	12H	25.2	25.9	25.5	26.2	26.4	27.3	28.0	27.6	28.2	28.5
4H	2H	25.2	26.0	25.5	26.2	26.5	26.7	27.5	27.0	27.7	27.9
	3H	25.5	26.2	25.8	26.5	26.7	27.1	27.8	27.5	28.1	28.4
	4H	25.6	26.2	25.9	26.5	26.8	27.3	28.0	27.7	28.3	28.6
	6H	25.6	26.2	26.0	26.5	26.9	27.5	28.0	27.8	28.4	28.7
	8H	25.6	26.2	26.0	26.5	26.9	27.5	28.1	27.9	28.4	28.8
	12H	25.6	26.1	26.0	26.5	26.9	27.6	28.1	28.1	28.5	28.9
8H	4H	25.7	26.2	26.1	26.5	26.9	27.3	27.8	27.7	28.2	28.5
	6H	25.8	26.2	26.2	26.6	27.0	27.5	27.9	27.9	28.3	28.7
	8H	25.8	26.2	26.3	26.6	27.1	27.6	28.0	28.1	28.4	28.9
	12H	25.9	26.2	26.3	26.6	27.1	27.8	28.1	28.3	28.6	29.1
12H	4H	25.6	26.1	26.1	26.5	26.9	27.3	27.7	27.7	28.1	28.5
	6H	25.8	26.2	26.2	26.6	27.0	27.5	27.9	27.9	28.3	28.7
	8H	25.9	26.2	26.3	26.6	27.1	27.6	28.0	28.1	28.4	28.9
Variations with the observer position at spacings:											
S = 1.0H	+ 1.2 / - 1.8					+ 1.4 / - 1.5					
1.5H	+ 1.8 / - 1.9					+ 2.4 / - 1.2					
2.0H	+ 1.7 / - 1.8					+ 2.0 / - 1.2					

CIE Pub.117, 188.8 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -5.8)

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:0.6360 Freq:50.00Hz Lamp Flux:188.75lx1 lm		
NAME: SL224-40-R-N-Q4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:

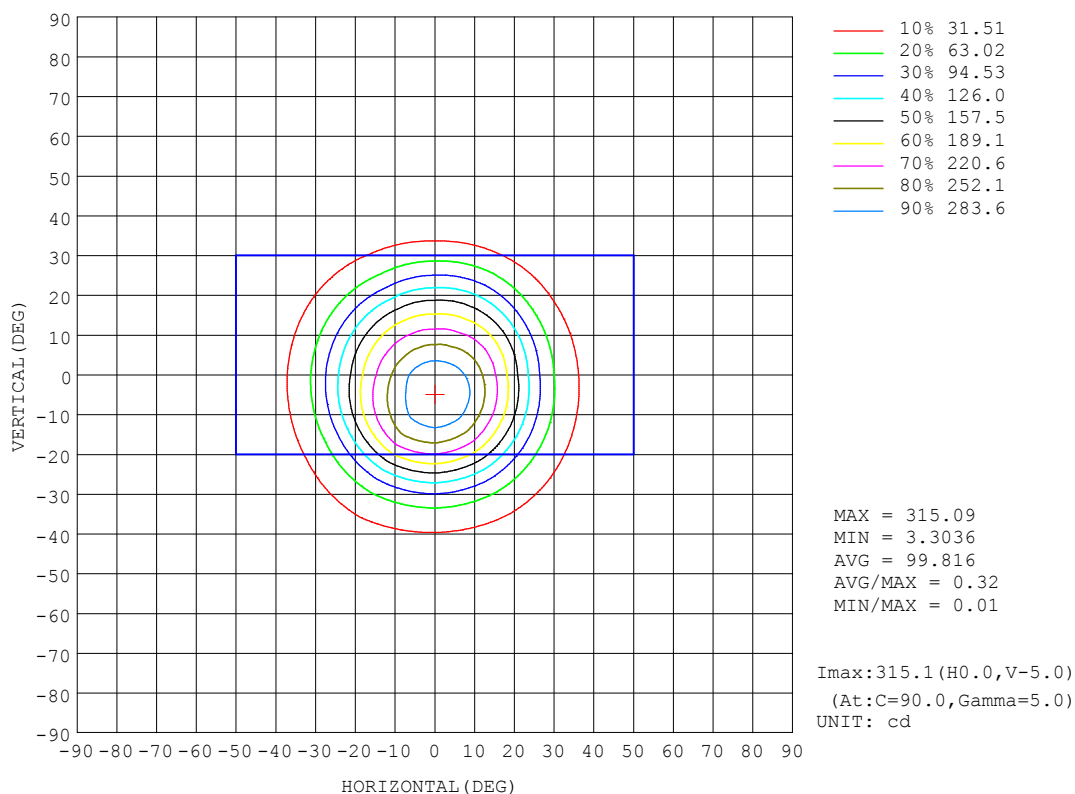
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	85	78	74	85	78	74	84	78	74	70
0.80	93	87	83	92	86	83	91	86	82	78
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	104	99	96	101	97	95	90
2.00	108	103	100	106	102	99	104	100	98	92
2.50	110	105	102	108	104	101	105	102	100	93
3.00	111	108	105	109	106	104	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

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:0.6360 Freq:50.00Hz Lamp Flux:188.75lx1 lm		
NAME: SL224-40-R-N-Q4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:



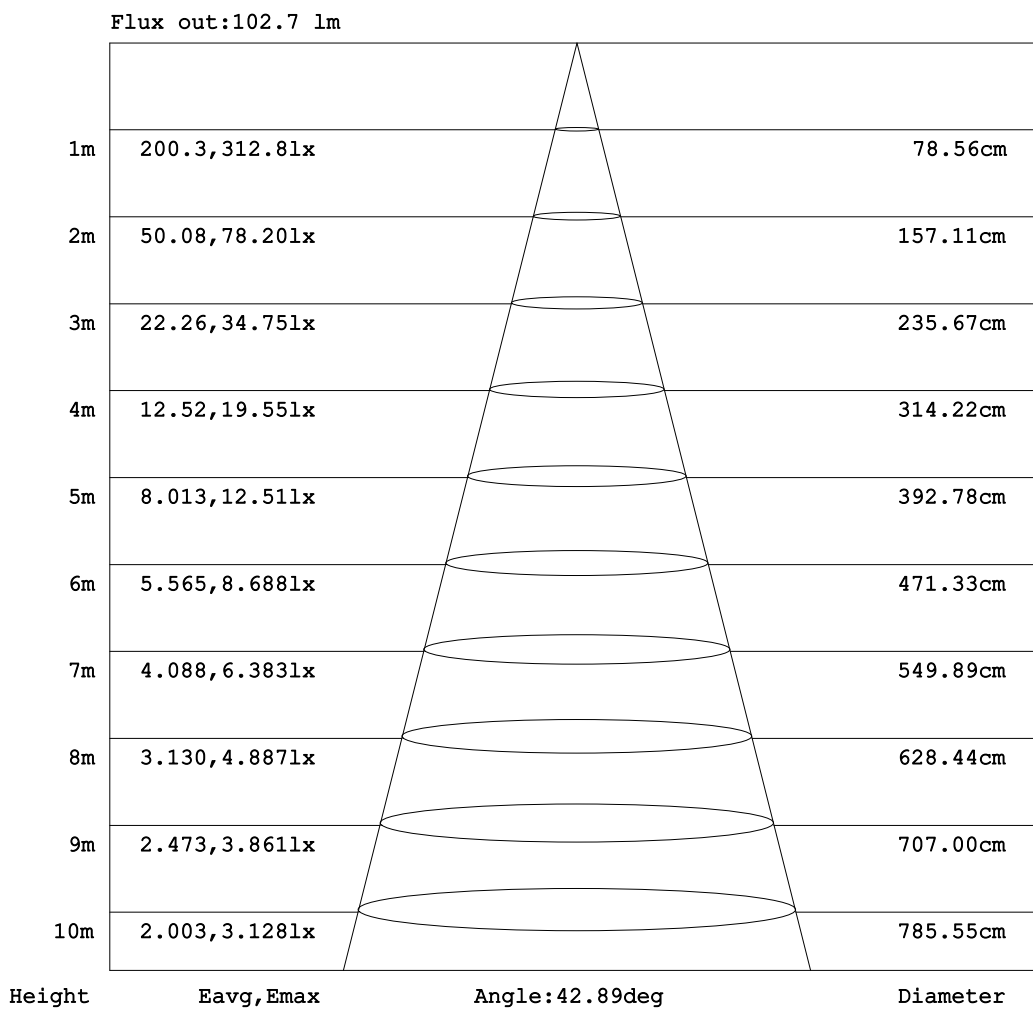
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jason  
 Test Date:27 May 2020

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:0.6360 Freq:50.00Hz Lamp Flux:188.75lx1 lm		
NAME: SL224-40-R-N-Q4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:



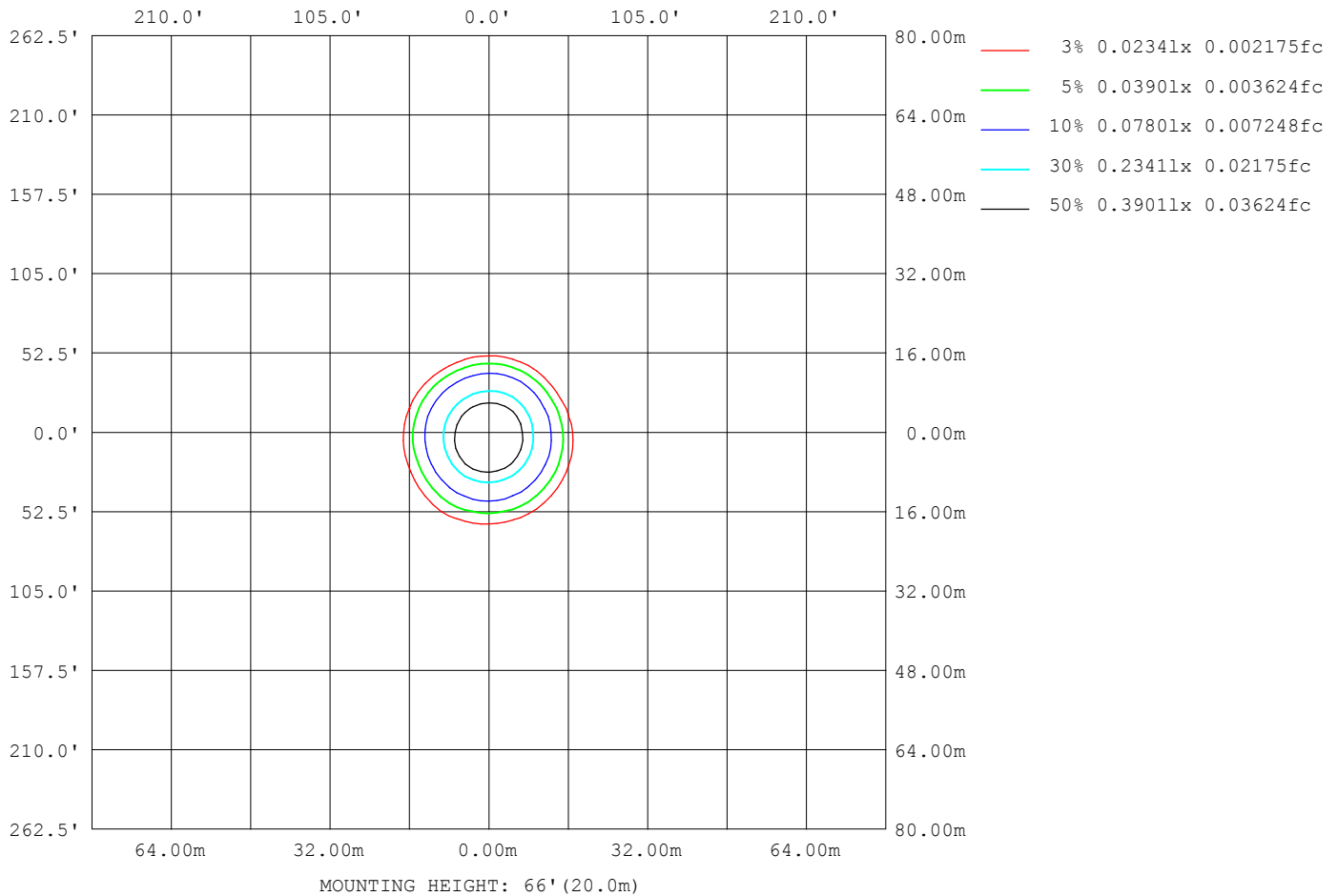
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.6360 Freq:50.00Hz Lamp Flux:188.75lx1 lm		
NAME: SL224-40-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:0.6360 Freq:50.00Hz Lamp Flux:188.75lx1 lm		
NAME: SL224-40-R-N-Q4	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Switch Lighting	SUR.:	Shielding Angle:

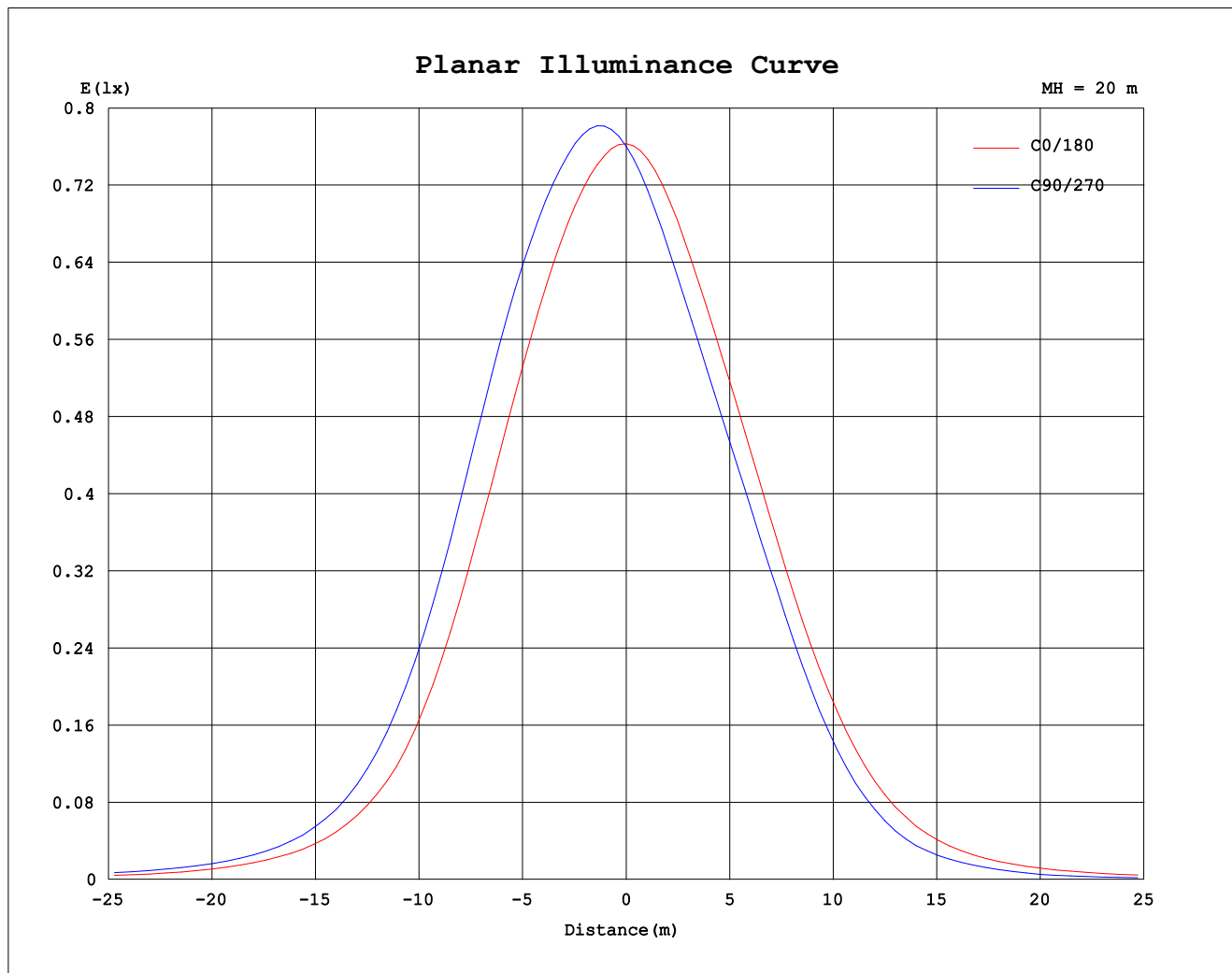
AvgL	cd/m2
L_0~180 (65) av	7662
L_0~180 (75) av	4161
L_0~180 (85) av	3199
L_90~270 (65) av	7176
L_90~270 (75) av	4953
L_90~270 (85) av	6619
L_45 (65) av	7977
L_45 (75) av	5430
L_45 (85) av	6077

Standard: GB/T 29293-2012

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:

## Planar Illuminance Curve



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

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:

```