

Report No.: 01

Test Time: 2016/10/14 11:07

Luminaire Property

Luminaire Manufacturer:

Luminaire Category: Synthesis LED Linear

Luminaire Description: Synthesis Indirect LO 28CM 135 mA 3500K 10degree

Luminous Length (mm): 304

Luminous Width (mm): 50

Luminous Height (mm): 2

Voltage: 219.8 V

Current: 0.024 A

Power: 4.53 W

Power Factor: 0.848

Photometric Results

CIE Class: Direct

Measurement Flux: 471.6 lm

Downward Ratio: 98%

Horizontal Diffuse Angle(50%): H31.3

Vertical Diffuse Angle(50%): V97.2

Luminaire Efficacy Rating (LER): 104

Max. Intensity: 486.61 cd

Total Rated Lamp Lumens: 471.6 lm

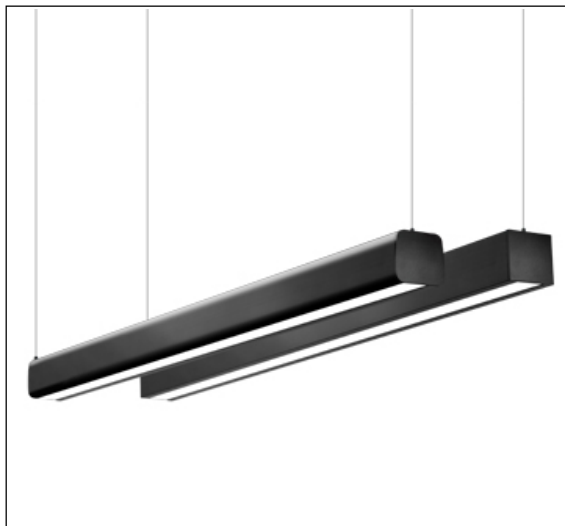
Efficiency: 100%

Upward Ratio: 2%

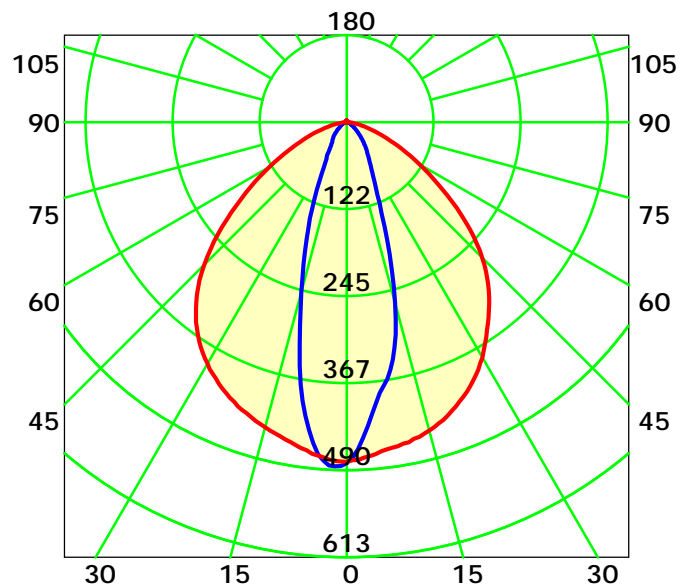
Central Intensity: 480.3 cd

Pos of Max. Intensity: H210 V2

Picture Of Luminaire



Luminous Intensity Distribution Curve



Average Diffuse Angle(50%): 64.2°

— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 30.0

Test Lab: ACOLYTE

Test Type: TYPE C

Temperature: 25°C

Operator: leo

Gamma Plane (°):0.0-180.0: 1.0

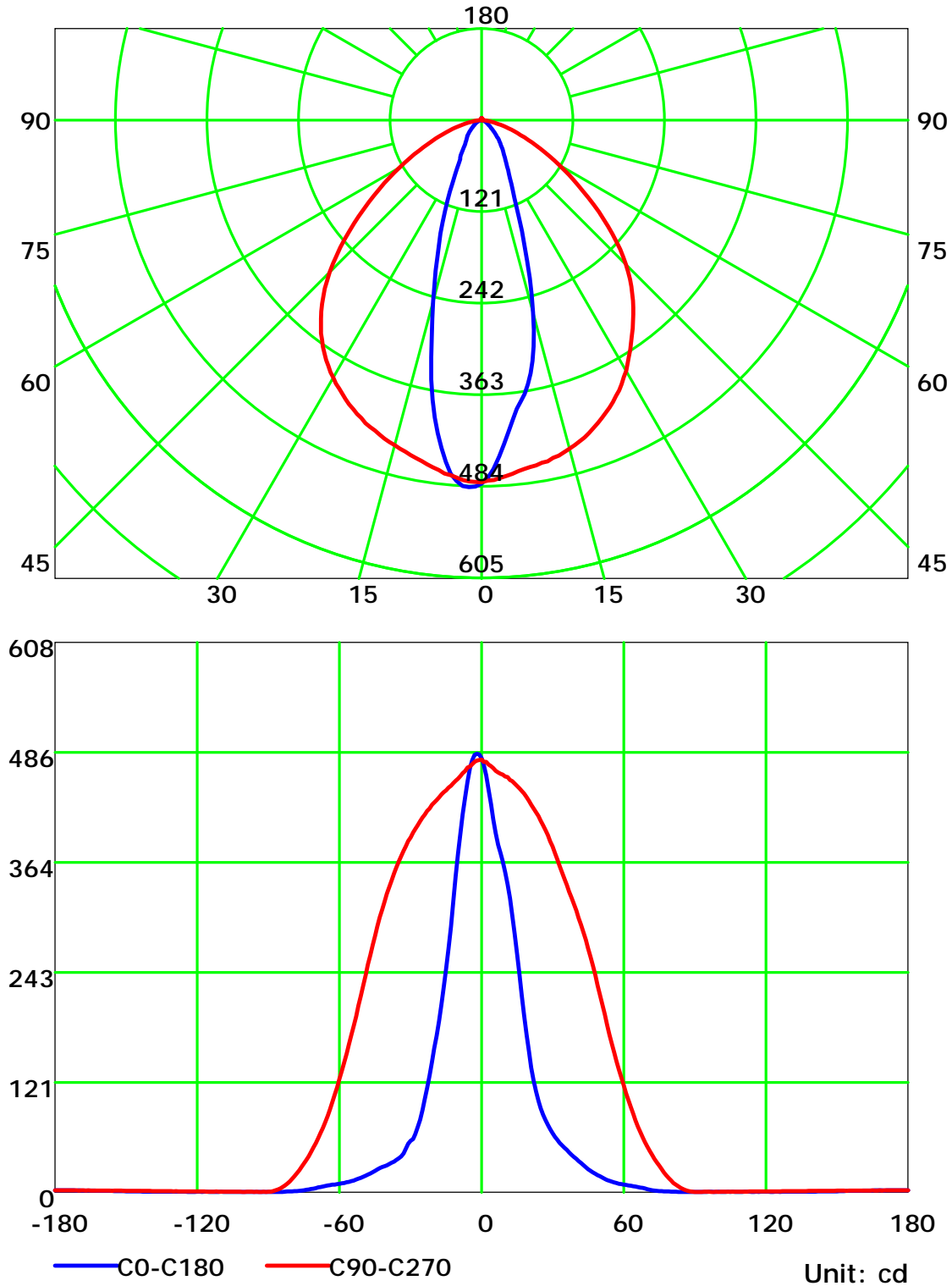
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

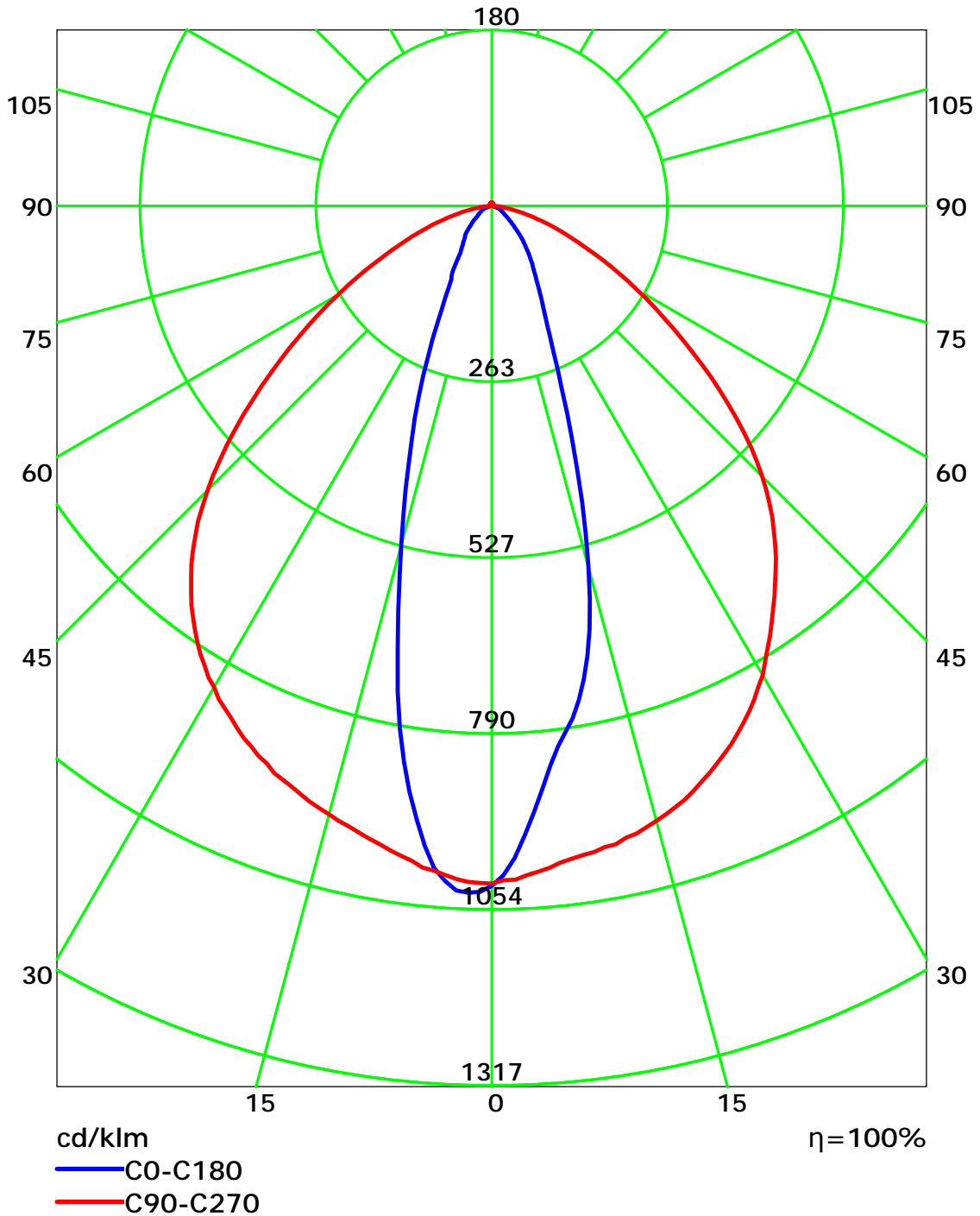
Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Luminous Intensity Distribution Curve(cd/klm)



C Plane (°): 0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°): 0.0-180.0: 1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

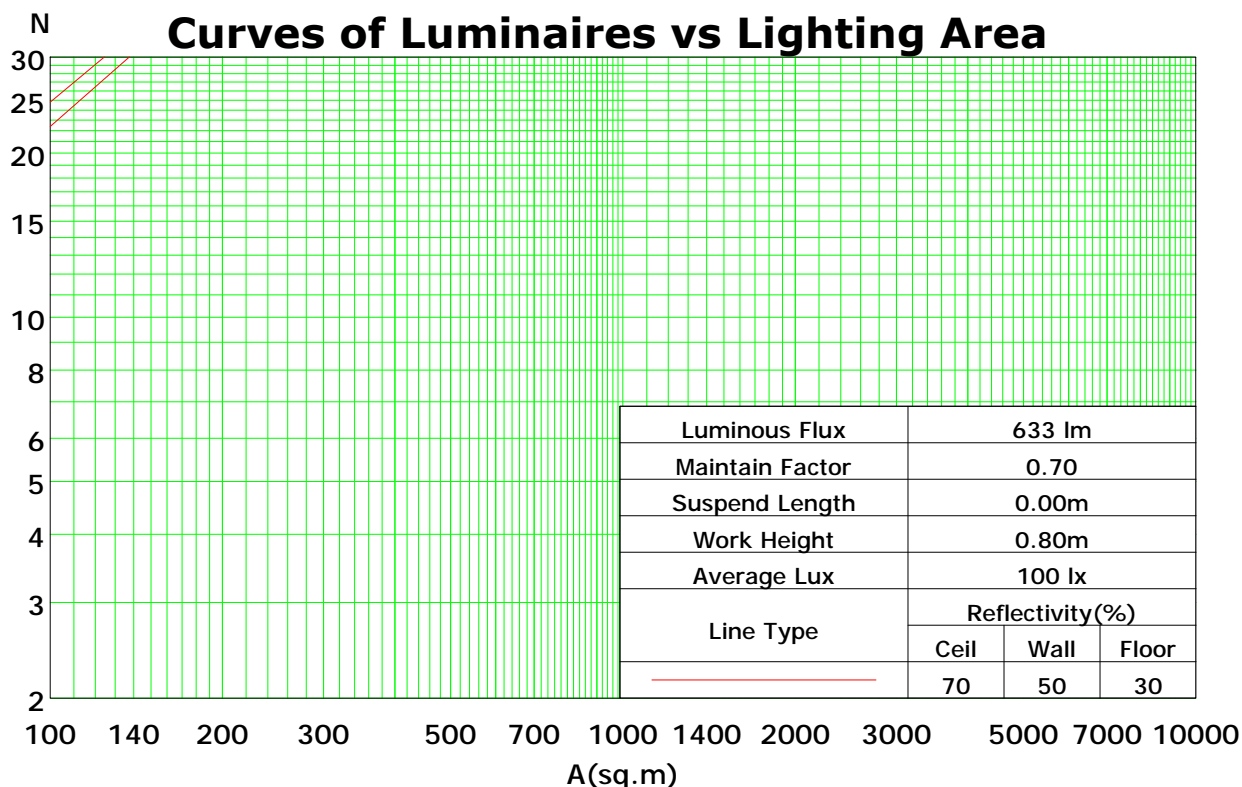
Coefficients Of Utilization - Zonal Cavity Method

RC	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.3	0.3	0.3	0.1	0.1	0.1	0
RW	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0
RCR	RF = 0.2																	
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101	98
1	111	108	104	101	108	105	102	100	101	98	96	97	95	93	93	91	90	88
2	104	97	92	88	101	95	91	87	92	88	84	88	85	82	85	83	80	78
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	78	75	72	70
4	90	81	74	69	88	79	73	68	77	71	67	75	70	66	72	68	65	63
5	85	74	67	62	83	73	66	61	71	65	61	69	64	60	67	63	59	57
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	52
7	75	64	56	51	73	63	56	51	61	55	51	60	54	50	58	54	50	48
8	71	59	52	47	69	59	52	47	57	51	47	56	50	46	55	50	46	45
9	67	55	49	44	65	55	48	44	54	48	43	53	47	43	52	47	43	41
10	63	52	45	41	62	52	45	41	51	45	41	50	44	40	49	44	40	39

Spacing Criteria (0-180): 0.52

Spacing Criteria (90-270): 1.21

Spacing Criteria (Diagonal): 0.71



C Plane (°):0.0-360.0: 30.0

Test Lab: ACOLYTE

Test Type: TYPE C

Temperature: 25°C

Operator: leo

Gamma Plane (°):0.0-180.0:1.0

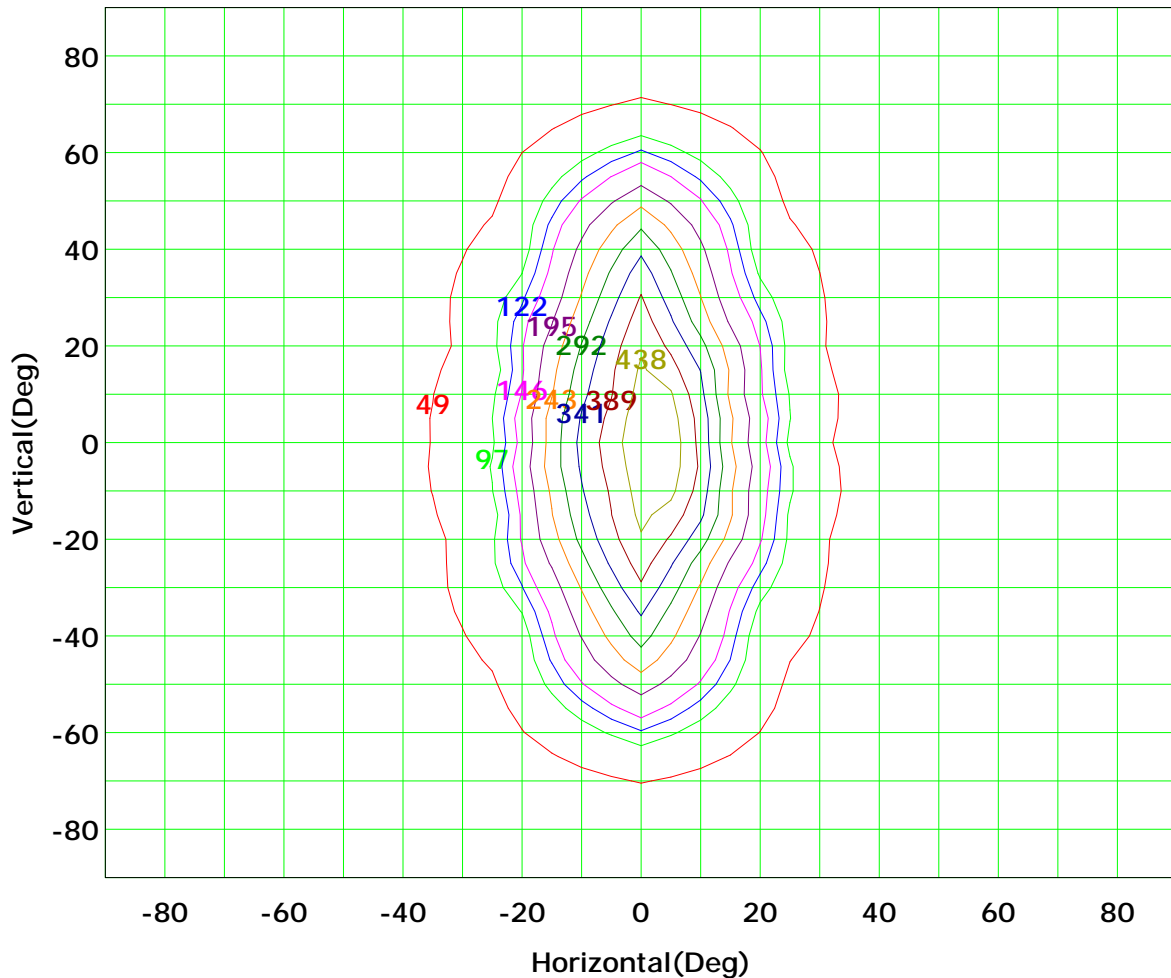
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

Isocandela (rectangle)



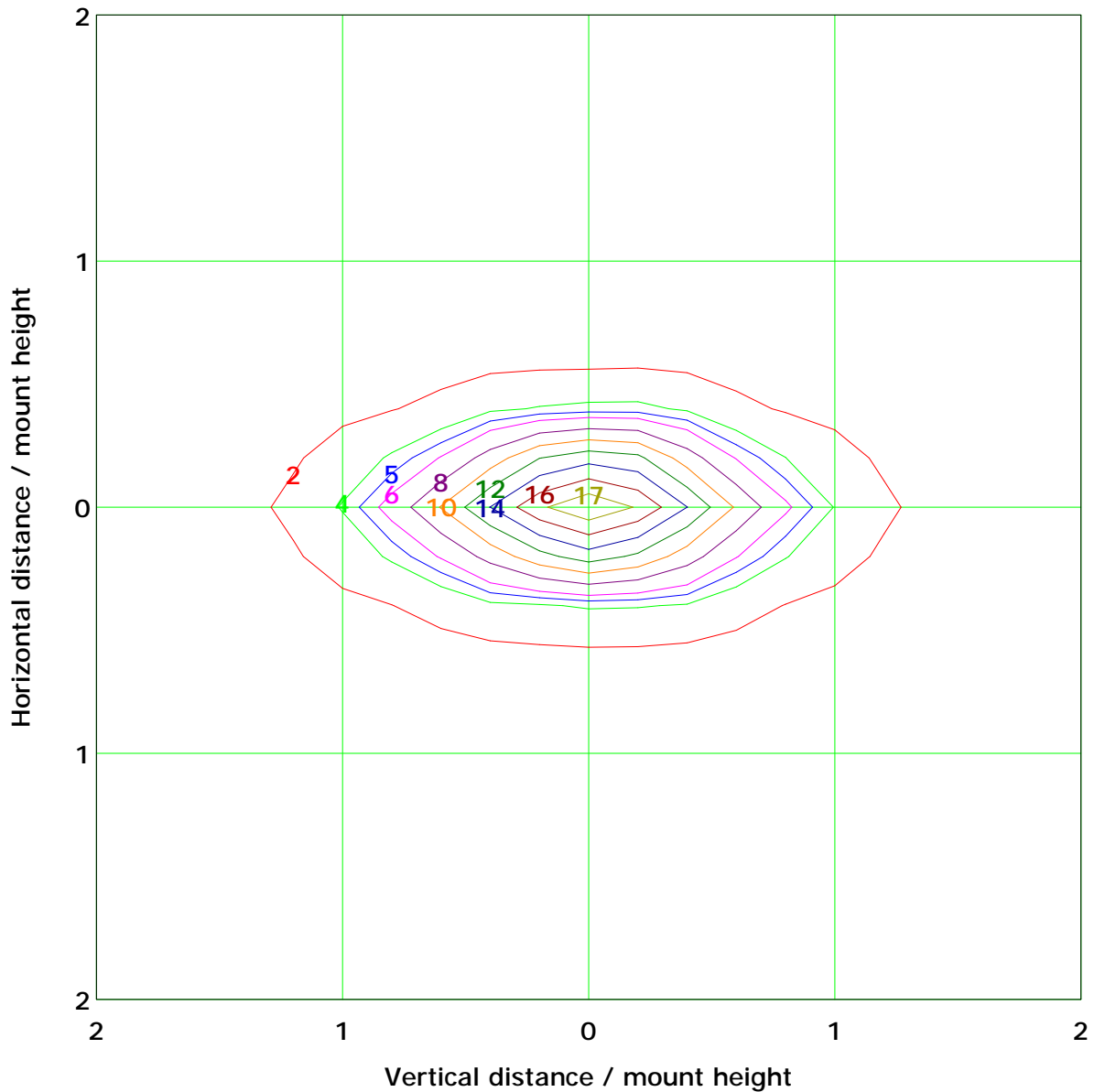
I_{max} (100%): 487 cd

(10%): 49 cd	(20%): 97 cd
(25%): 122 cd	(30%): 146 cd
(40%): 195 cd	(50%): 243 cd
(60%): 292 cd	(70%): 341 cd
(80%): 389 cd	(90%): 438 cd

C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

IsoLux Plot



Mounting Height: 5.0m		Max Lux(100%): 19.4 lx	
(10%):	1.9 lx	(20%):	3.9 lx
(25%):	4.9 lx	(30%):	5.8 lx
(40%):	7.8 lx	(50%):	9.7 lx
(60%):	11.7 lx	(70%):	13.6 lx
(80%):	15.5 lx	(90%):	17.5 lx

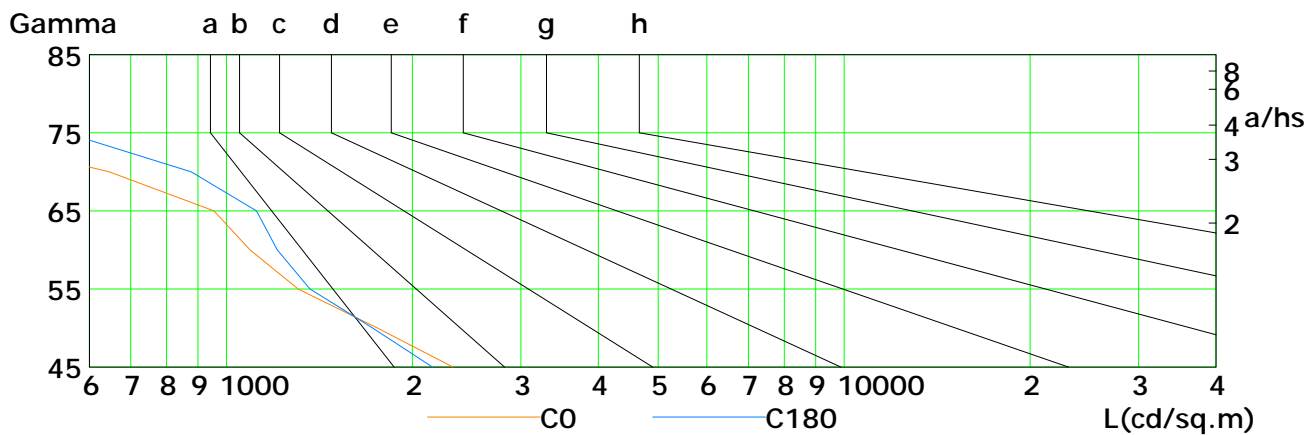
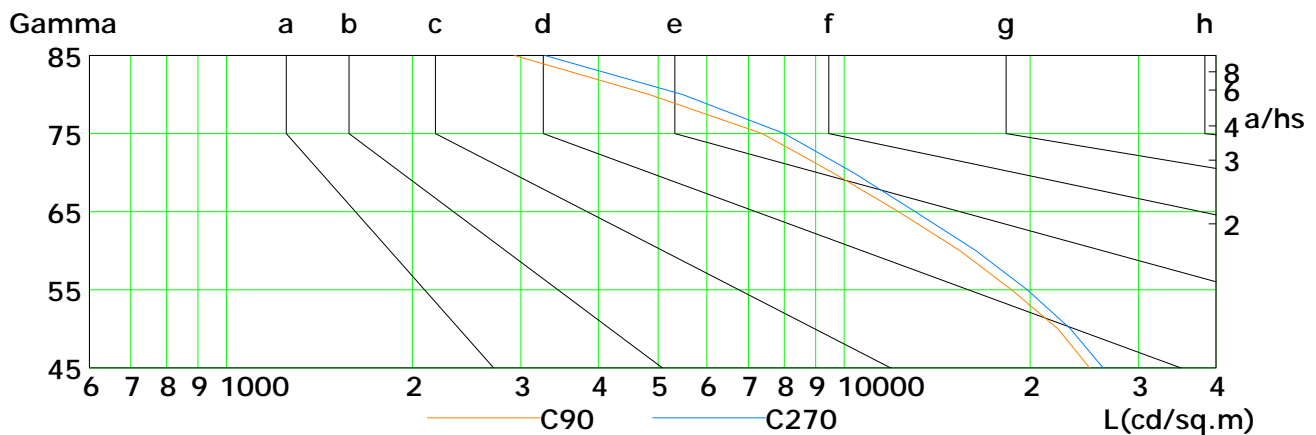
C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Lum Limit Curve

Dazzle	Quality	Illuminance (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300

a b c d e f g h

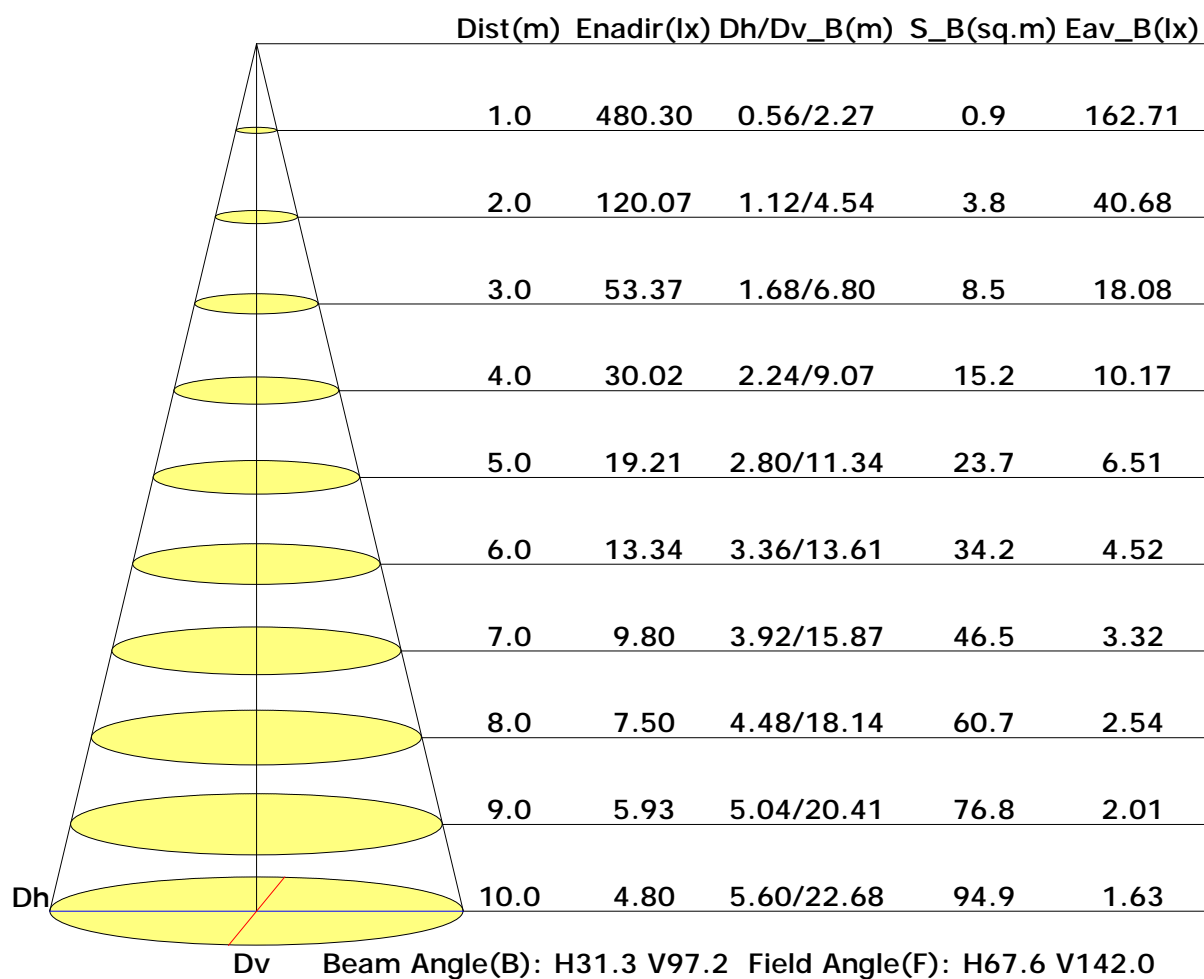


L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	2327	1757	1306	1093	955	646	358	315	430
C90	24976	22189	18677	15413	12260	9579	7374	4839	2928
C180	2157	1726	1366	1210	1120	877	551	442	425
C270	26266	23258	19799	16353	13043	10360	8001	5475	3279

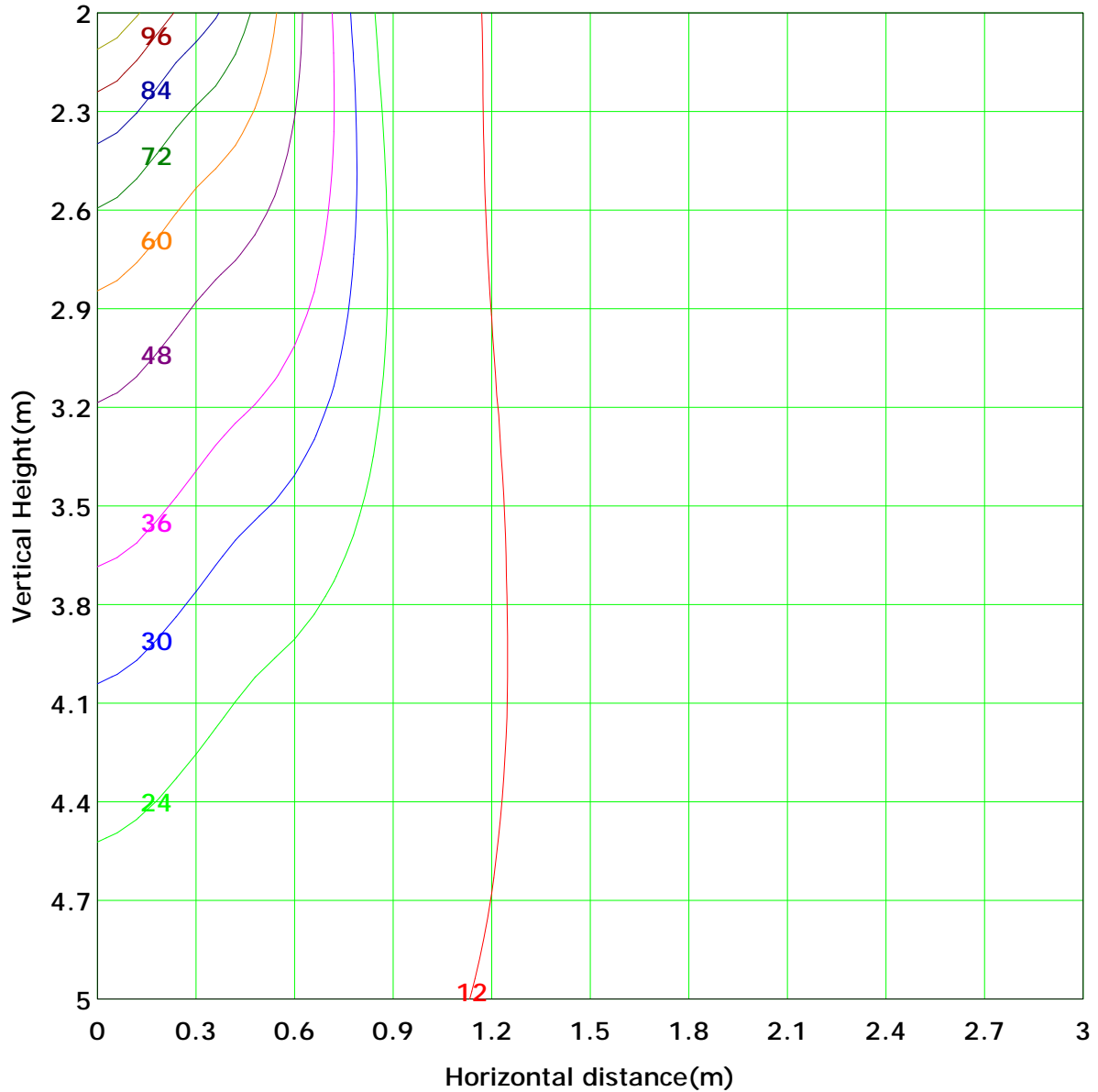
C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 2.0m	Highest(m): 5.0m	Max Lux: 120.1 lx
(10%): 12.0 lx	(20%): 24.0 lx	
(25%): 30.0 lx	(30%): 36.0 lx	
(40%): 48.0 lx	(50%): 60.0 lx	
(60%): 72.0 lx	(70%): 84.1 lx	
(80%): 96.1 lx	(90%): 108.1 lx	

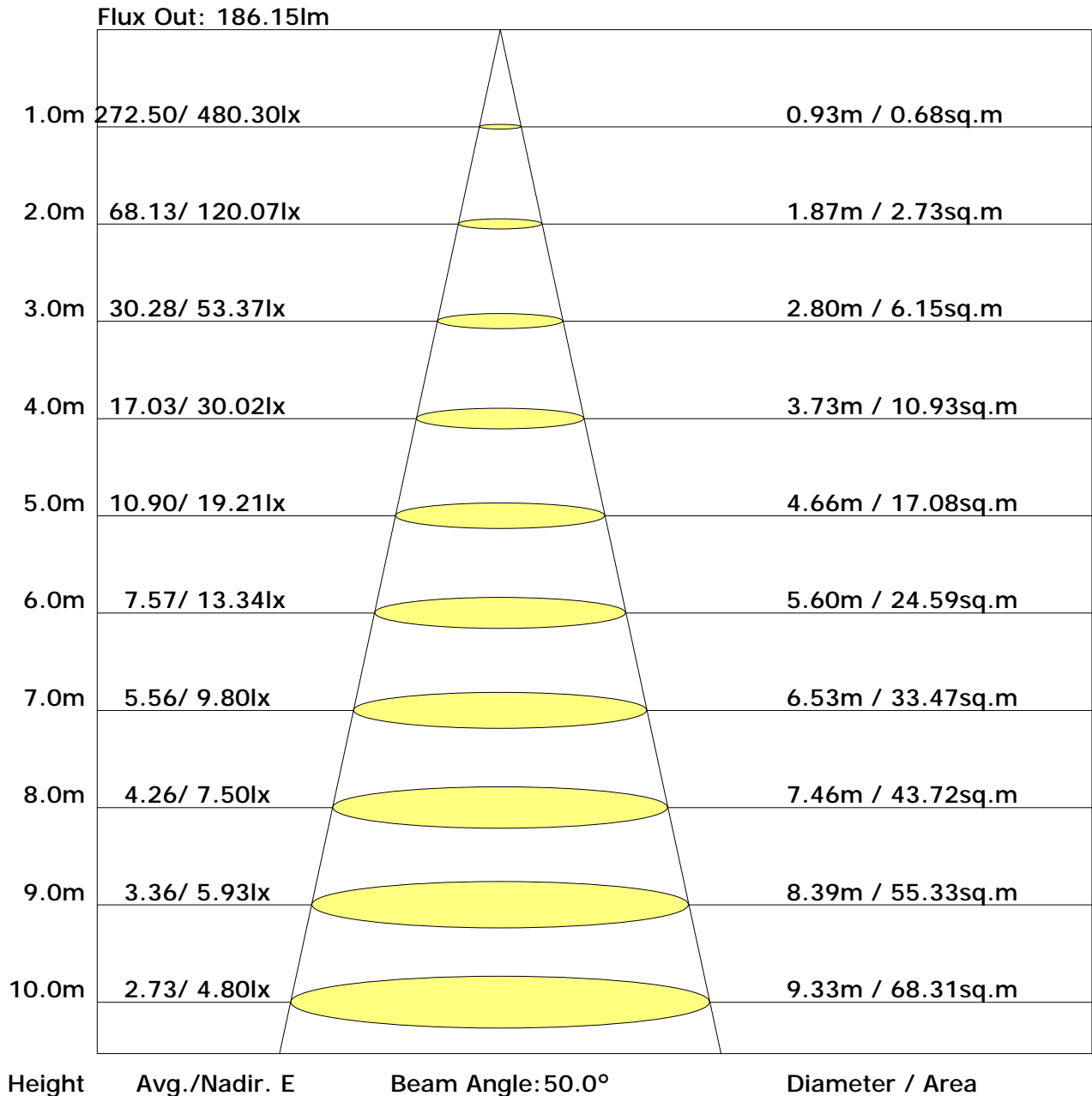
C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Unit: 1m

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

The Average Illuminance Effective Figure



UGR Table

Reflectance:										
Ceiling (cavity)	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference 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	9.5	10.8	9.9	11.2	11.5	22.7	24.0	23.0	24.3	24.7
3H	10.5	11.7	10.9	12.1	12.5	24.1	25.3	24.5	25.7	26.1
4H	10.7	11.7	11.1	12.1	12.5	24.6	25.7	25.0	26.0	26.5
6H	10.7	11.7	11.1	12.1	12.5	24.8	25.8	25.2	26.2	26.6
8H	10.7	11.7	11.2	12.1	12.5	24.8	25.8	25.3	26.2	26.6
12H	10.7	11.6	11.2	12.1	12.5	24.8	25.7	25.3	26.1	26.6
X=4H Y=2H	11.5	12.6	12.0	13.0	13.4	22.5	23.6	22.9	24.0	24.4
3H	12.3	13.2	12.8	13.7	14.1	24.1	24.9	24.5	25.4	25.8
4H	12.4	13.2	12.9	13.7	14.2	24.6	25.4	25.0	25.8	26.3
6H	12.5	13.2	13.0	13.6	14.2	24.9	25.6	25.4	26.0	26.5
8H	12.5	13.1	13.0	13.6	14.1	24.9	25.5	25.4	26.0	26.5
12H	12.5	13.1	13.1	13.6	14.1	24.9	25.5	25.4	26.0	26.5
X=8H Y=4H	13.3	13.9	13.8	14.4	14.9	24.5	25.1	25.0	25.6	26.1
6H	13.4	13.9	13.9	14.4	15.0	24.8	25.3	25.3	25.8	26.3
8H	13.4	13.9	14.0	14.4	14.9	24.8	25.3	25.4	25.8	26.4
12H	13.5	13.9	14.0	14.4	15.0	24.9	25.3	25.4	25.8	26.4
X=12H Y=4H	13.5	14.0	14.0	14.5	15.1	24.4	25.0	24.9	25.5	26.0
6H	13.6	14.1	14.1	14.5	15.1	24.7	25.2	25.3	25.7	26.3
8H	13.6	14.0	14.2	14.6	15.2	24.8	25.2	25.3	25.7	26.3

Calculate in accordance with CIE 190:2010

C Plane (°):0.0-360.0: 30.0
 Test Lab: ACOLYTE
 Test Type: TYPE C
 Temperature: 25°C
 Operator: leo

Gamma Plane (°):0.0-180.0:1.0
 Test Device: GPM-1800B
 Distance: 9.028 m
 Humidity: 60%
 Inspector:

Utilisation Factor Table(Floor cavity)

Utilisation Factors UF(F)			SHR NOM = 0.75								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.69	0.78	0.84	0.88	0.94	0.98	1.01	1.05	1.07
	0.30		0.63	0.72	0.78	0.83	0.90	0.94	0.97	1.01	1.04
	0.20		0.58	0.67	0.73	0.79	0.86	0.90	0.94	0.99	1.02
0.50	0.50	0.20	0.67	0.76	0.81	0.86	0.91	0.95	0.97	1.00	1.02
	0.30		0.62	0.70	0.76	0.81	0.87	0.91	0.94	0.98	1.00
	0.20		0.58	0.66	0.72	0.77	0.84	0.88	0.91	0.96	0.98
0.30	0.50	0.20	0.66	0.74	0.79	0.83	0.88	0.91	0.94	0.96	0.98
	0.30		0.61	0.69	0.75	0.79	0.85	0.88	0.91	0.94	0.97
	0.20		0.57	0.65	0.71	0.76	0.82	0.86	0.89	0.93	0.95
0.00	0.00	0.00	0.55	0.63	0.69	0.73	0.78	0.82	0.85	0.88	0.90
Rating:5W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980											

Utilisation Factor Table(Wall)

Utilisation Factors UF(W)			SHR NOM = 0.75								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.81	0.66	0.56	0.48	0.38	0.31	0.26	0.20	0.16
	0.30		0.67	0.56	0.48	0.42	0.34	0.29	0.24	0.19	0.16
	0.20		0.58	0.49	0.43	0.38	0.31	0.26	0.23	0.18	0.15
0.50	0.50	0.20	0.77	0.63	0.53	0.45	0.36	0.33	0.25	0.19	0.15
	0.30		0.65	0.54	0.47	0.41	0.32	0.27	0.23	0.18	0.15
	0.20		0.57	0.48	0.42	0.37	0.30	0.25	0.22	0.17	0.14
0.30	0.50	0.20	0.74	0.60	0.50	0.43	0.33	0.27	0.23	0.18	0.14
	0.30		0.64	0.53	0.45	0.39	0.31	0.26	0.22	0.17	0.14
	0.20		0.56	0.47	0.41	0.36	0.29	0.24	0.21	0.16	0.13
0.00	0.00	0.00	0.44	0.36	0.30	0.26	0.20	0.17	0.14	0.11	0.09
<p>Rating:5W Photometrically tested without ceiling board.</p> <p>Multiply UF values by service correction factors</p> <p>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980</p>											

Utilisation Factor Table(Ceiling cavity)

Utilisation Factors UF(C)			SHR NOM = 0.75								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.16	0.18	0.19	0.19	0.21	0.21	0.22	0.22	0.23
	0.30		0.11	0.13	0.14	0.15	0.17	0.18	0.19	0.20	0.21
	0.20		0.07	0.09	0.10	0.12	0.14	0.15	0.16	0.18	0.19
0.50	0.50	0.20	0.16	0.17	0.18	0.19	0.20	0.20	0.21	0.21	0.22
	0.30		0.11	0.12	0.14	0.15	0.16	0.17	0.18	0.19	0.20
	0.20		0.07	0.09	0.10	0.11	0.13	0.15	0.16	0.17	0.18
0.30	0.50	0.20	0.15	0.17	0.17	0.18	0.19	0.20	0.20	0.21	0.21
	0.30		0.10	0.12	0.13	0.14	0.16	0.17	0.18	0.19	0.19
	0.20		0.07	0.08	0.10	0.11	0.13	0.14	0.16	0.17	0.18
0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Rating:5W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980											