

Report No.: 01

Test Time: 2016/10/14 12:08

Luminaire Property

Luminaire Manufacturer:

Luminaire Category: Synthesis LED Linear

Luminaire Description: Synthesis Indirect LO 28CM 135 mA 3500K 90x113degree

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: 0.847

Photometric Results

CIE Class: Direct

Measurement Flux: 429.5 lm

Downward Ratio: 99%

Horizontal Diffuse Angle(50%): H80.9

Vertical Diffuse Angle(50%): V100.1

Luminaire Efficacy Rating (LER): 95

Max. Intensity: 223.09 cd

Total Rated Lamp Lumens: 429.5 lm

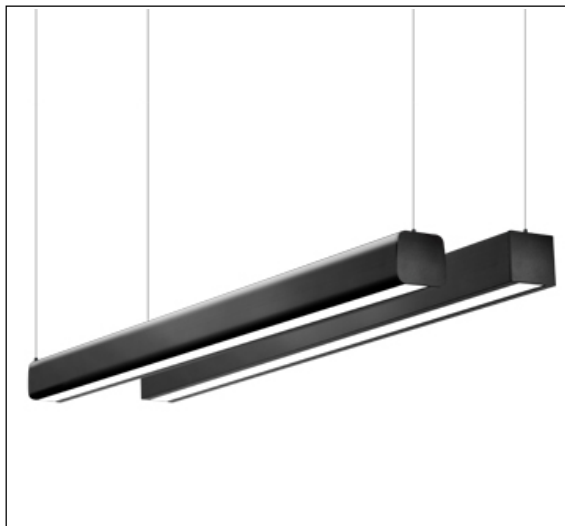
Efficiency: 100%

Upward Ratio: 1%

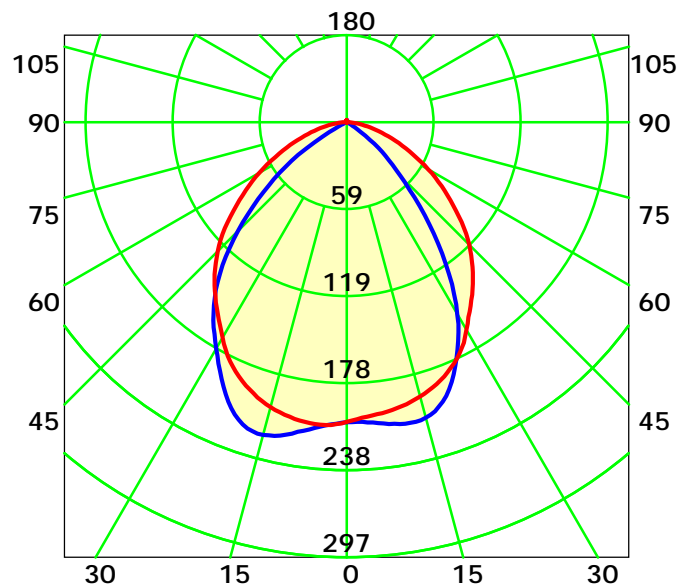
Central Intensity: 205.42 cd

Pos of Max. Intensity: H210 V17

Picture Of Luminaire



Luminous Intensity Distribution Curve



Unit: cd
Average Diffuse Angle(50%): 90.5°

— 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

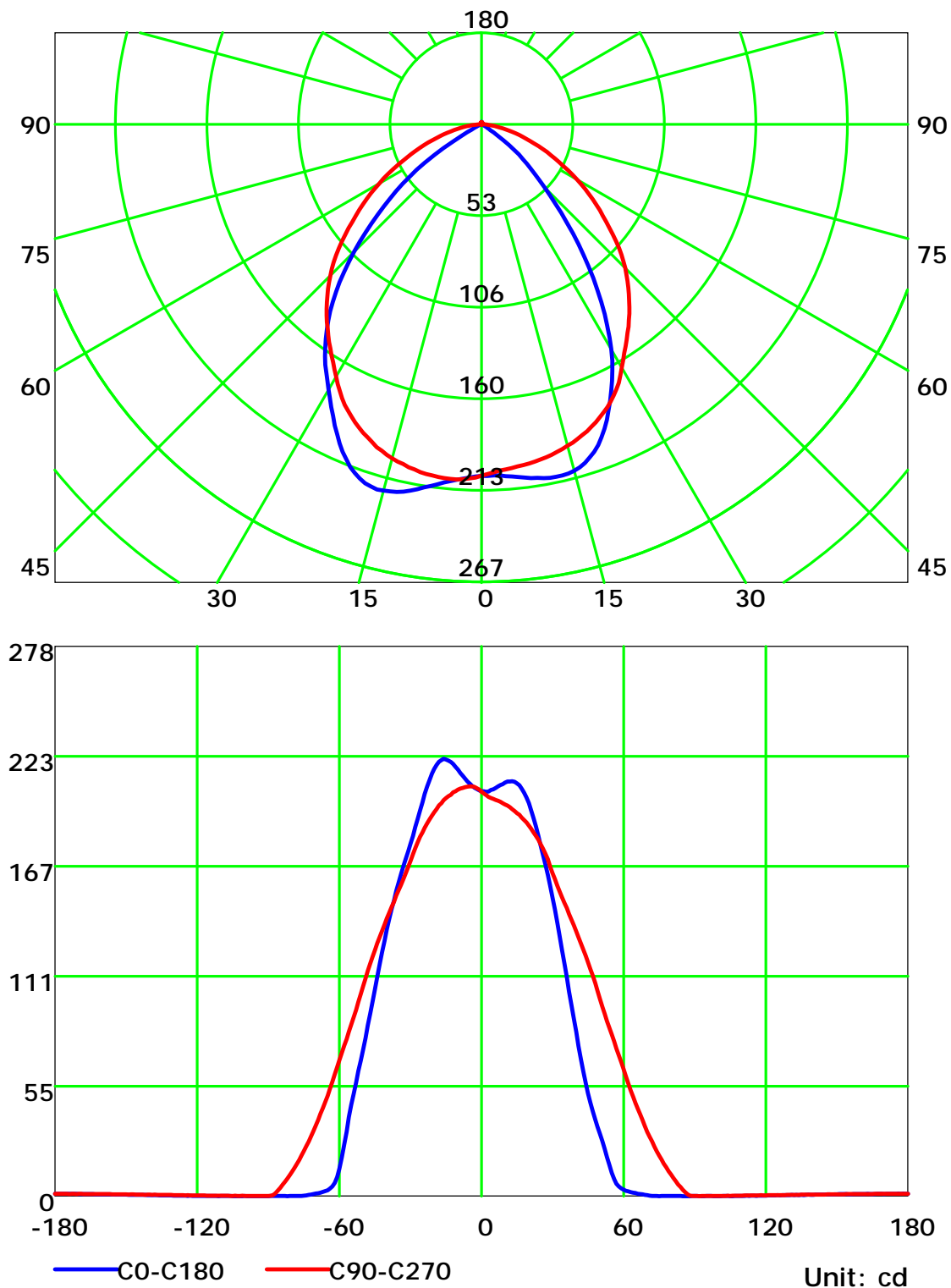
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

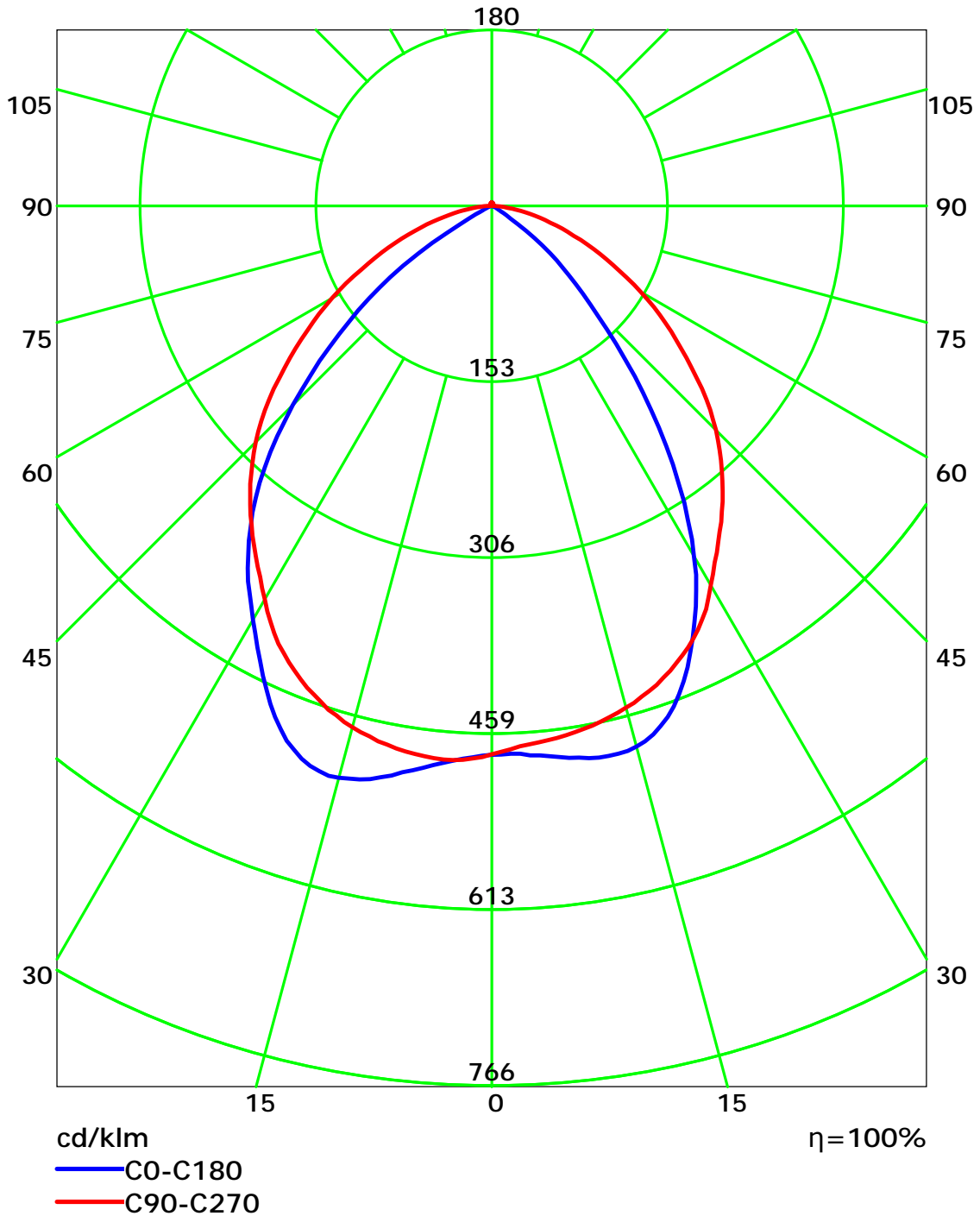
Luminous Intensity Distribution Curve



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:

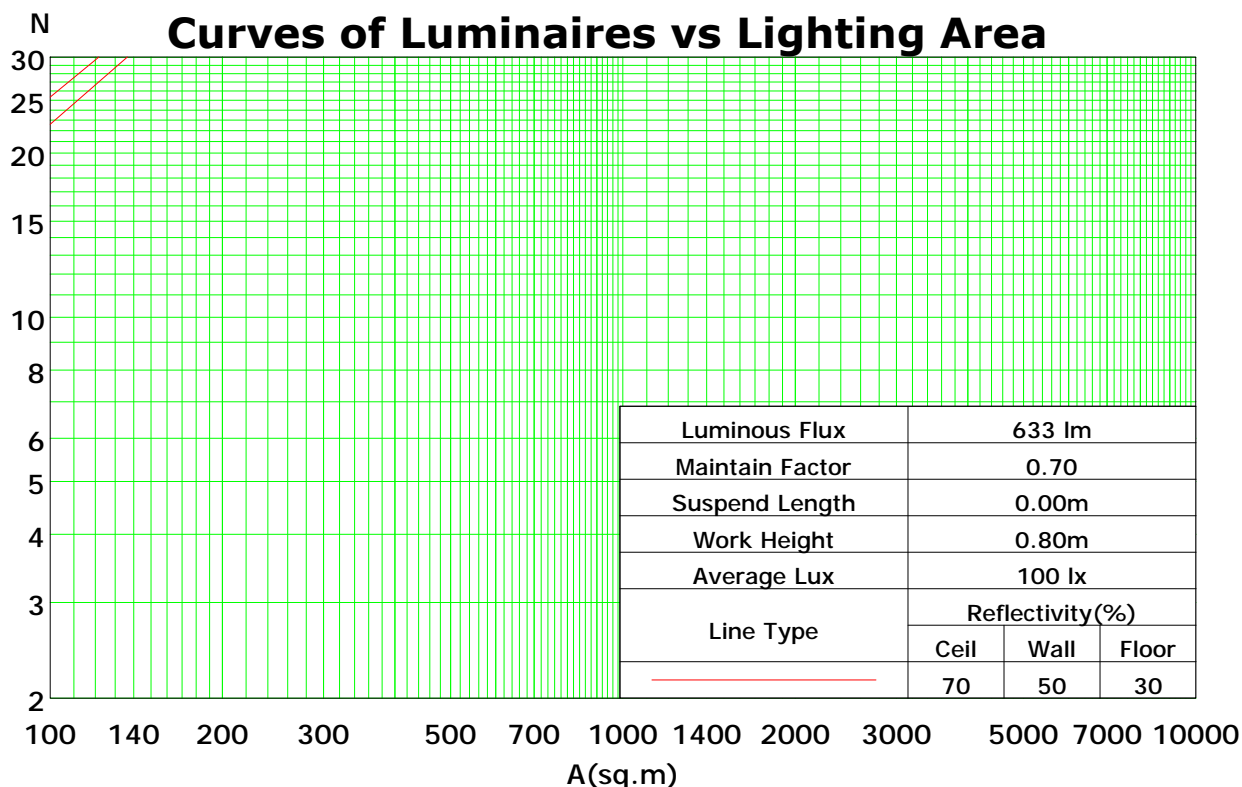
Coefficients Of Utilization - Zonal Cavity Method

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	111	111	111	106	106	106	101	101	101	99
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77
3	95	87	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	68
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	60
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53
6	76	65	57	51	74	64	56	51	62	55	50	60	54	50	59	53	49	48
7	71	59	51	46	70	58	51	46	57	50	45	55	49	45	54	49	45	43
8	67	54	47	41	65	54	46	41	52	46	41	51	45	41	50	45	40	39
9	62	50	43	38	61	50	42	38	48	42	37	47	41	37	46	41	37	35
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32

Spacing Criteria (0-180): 1.19

Spacing Criteria (90-270): 1.21

Spacing Criteria (Diagonal): 1.26



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

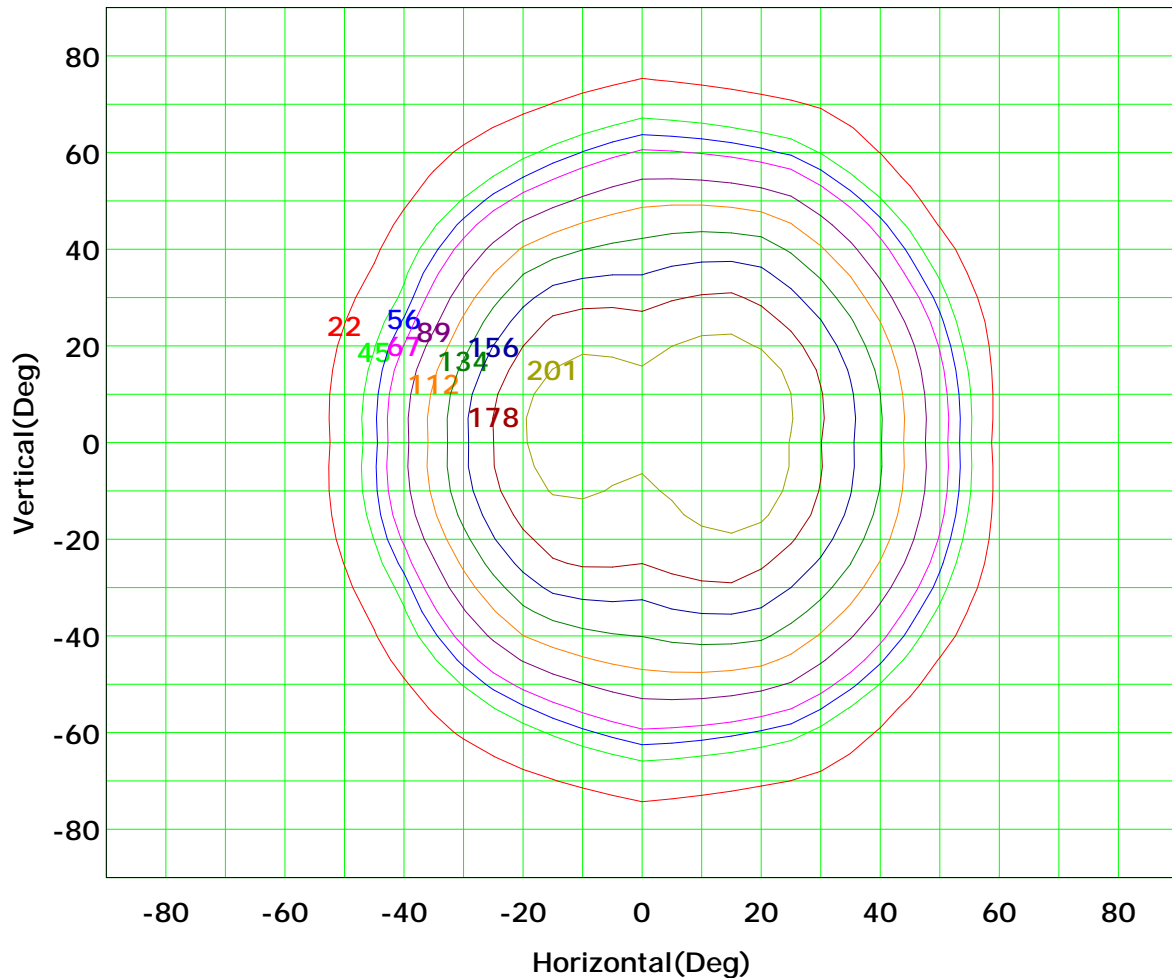
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

Isocandela (rectangle)



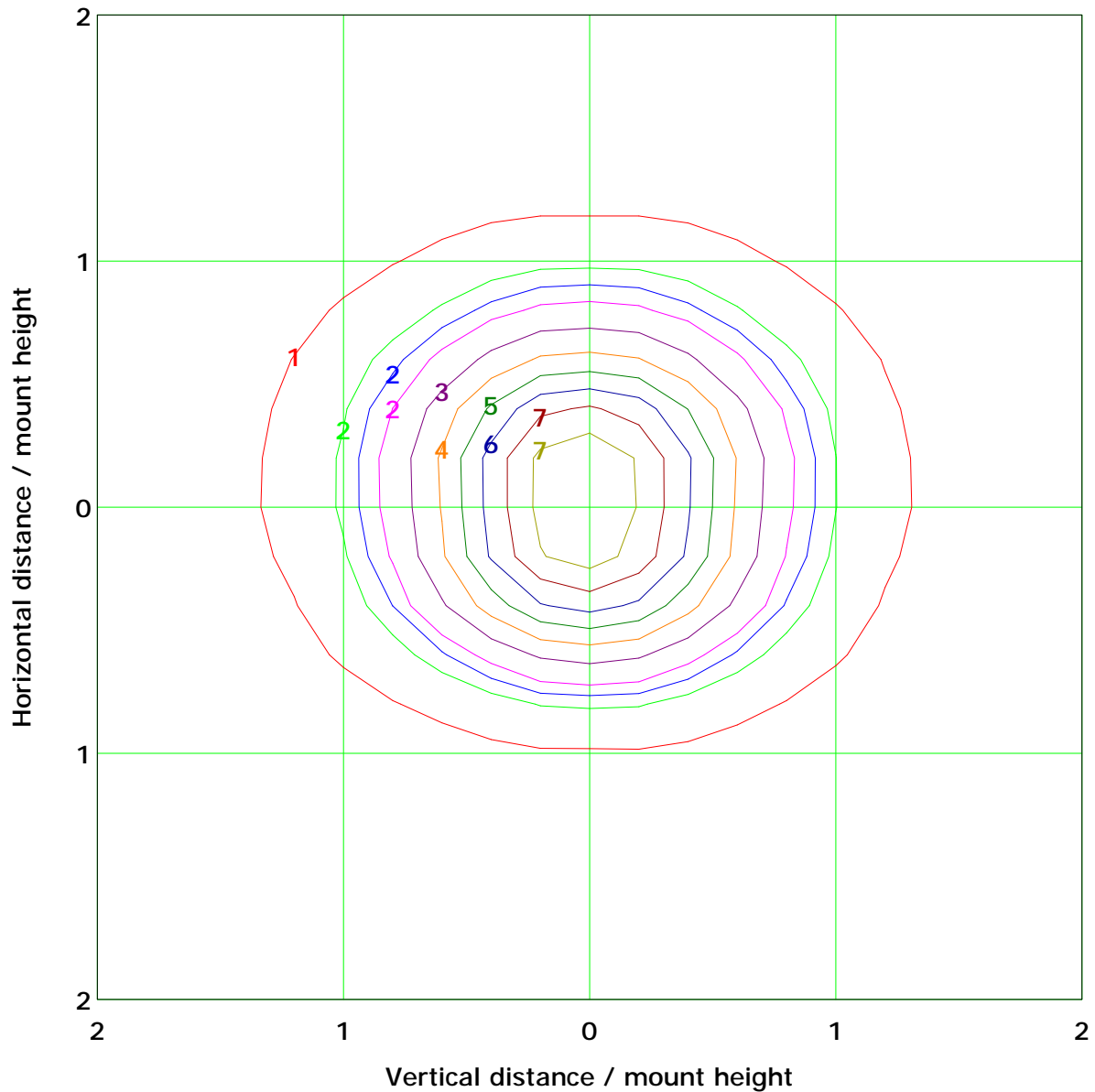
I_{max} (100%): 223 cd

(10%):	22 cd	(20%):	45 cd
(25%):	56 cd	(30%):	67 cd
(40%):	89 cd	(50%):	112 cd
(60%):	134 cd	(70%):	156 cd
(80%):	178 cd	(90%):	201 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%): 8.3 lx

(10%): 0.8 lx	(20%): 1.7 lx
(25%): 2.1 lx	(30%): 2.5 lx
(40%): 3.3 lx	(50%): 4.2 lx
(60%): 5.0 lx	(70%): 5.8 lx
(80%): 6.7 lx	(90%): 7.5 lx

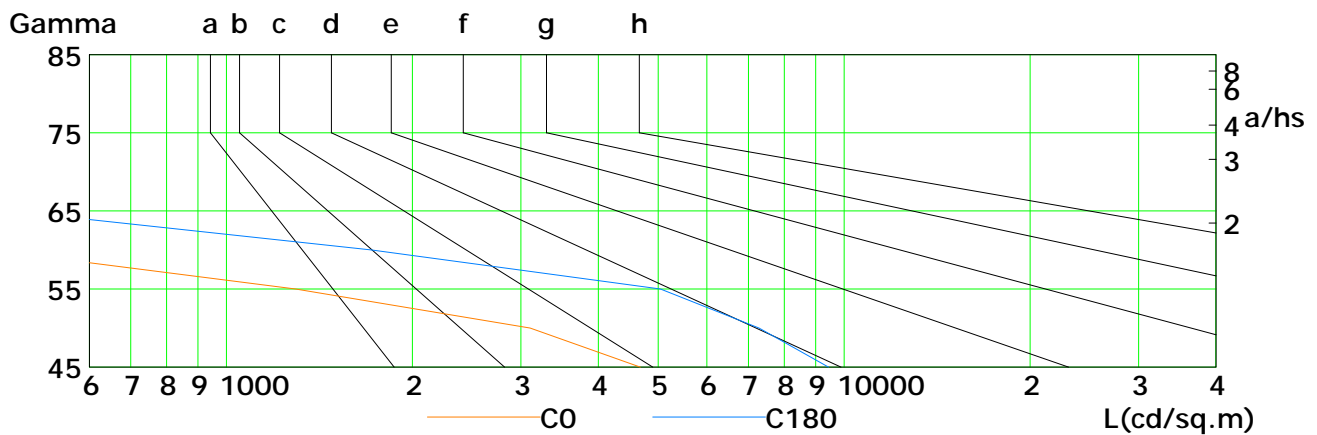
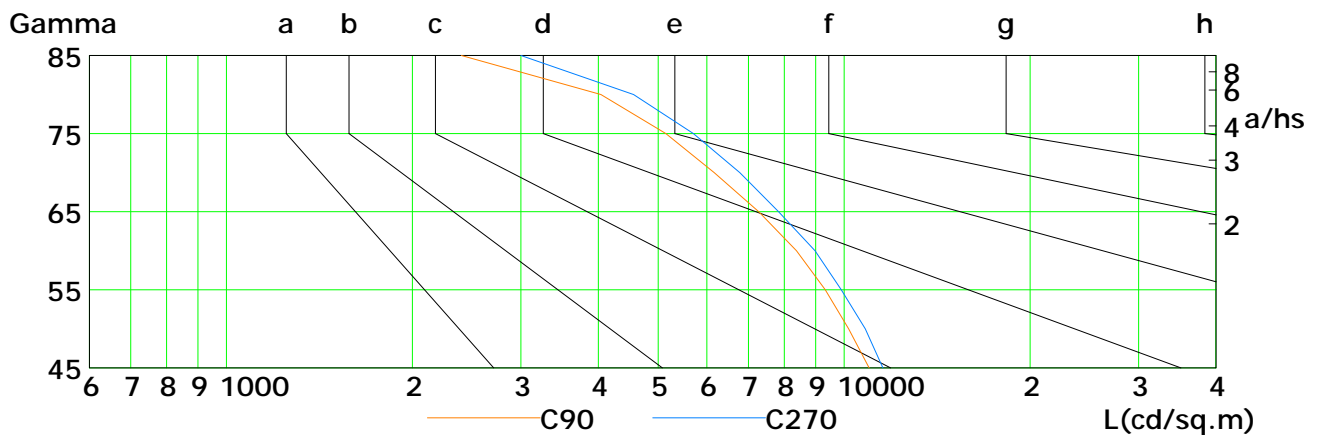
C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

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	4678	3103	1294	412	237	111	27	52	41
C90	10983	10177	9321	8380	7276	6167	5146	4040	2401
C180	9434	7280	5046	1718	450	246	69	74	83
C270	11555	10827	9900	8977	7835	6783	5704	4562	2998

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

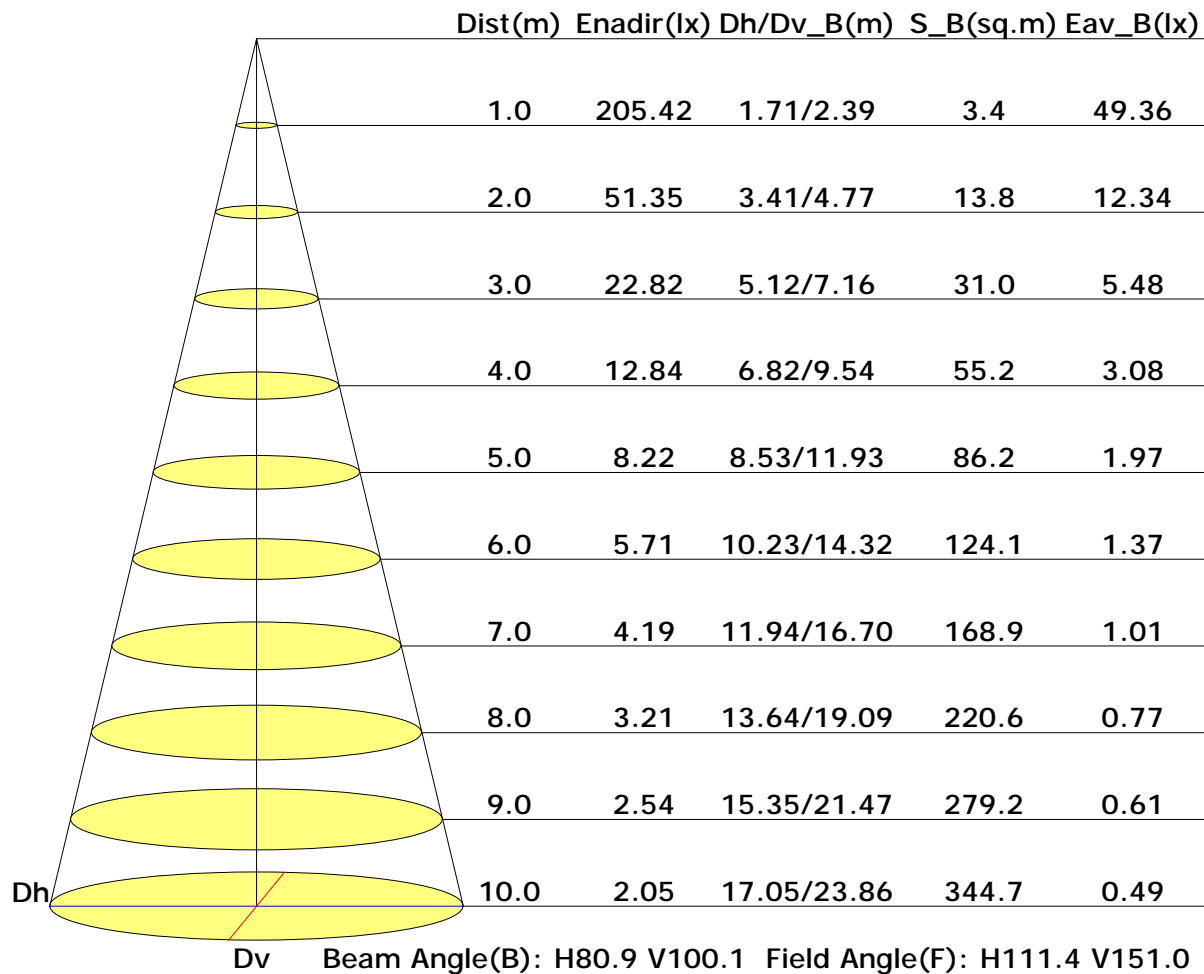
Test Device: GPM-1800B

Distance: 9.028 m

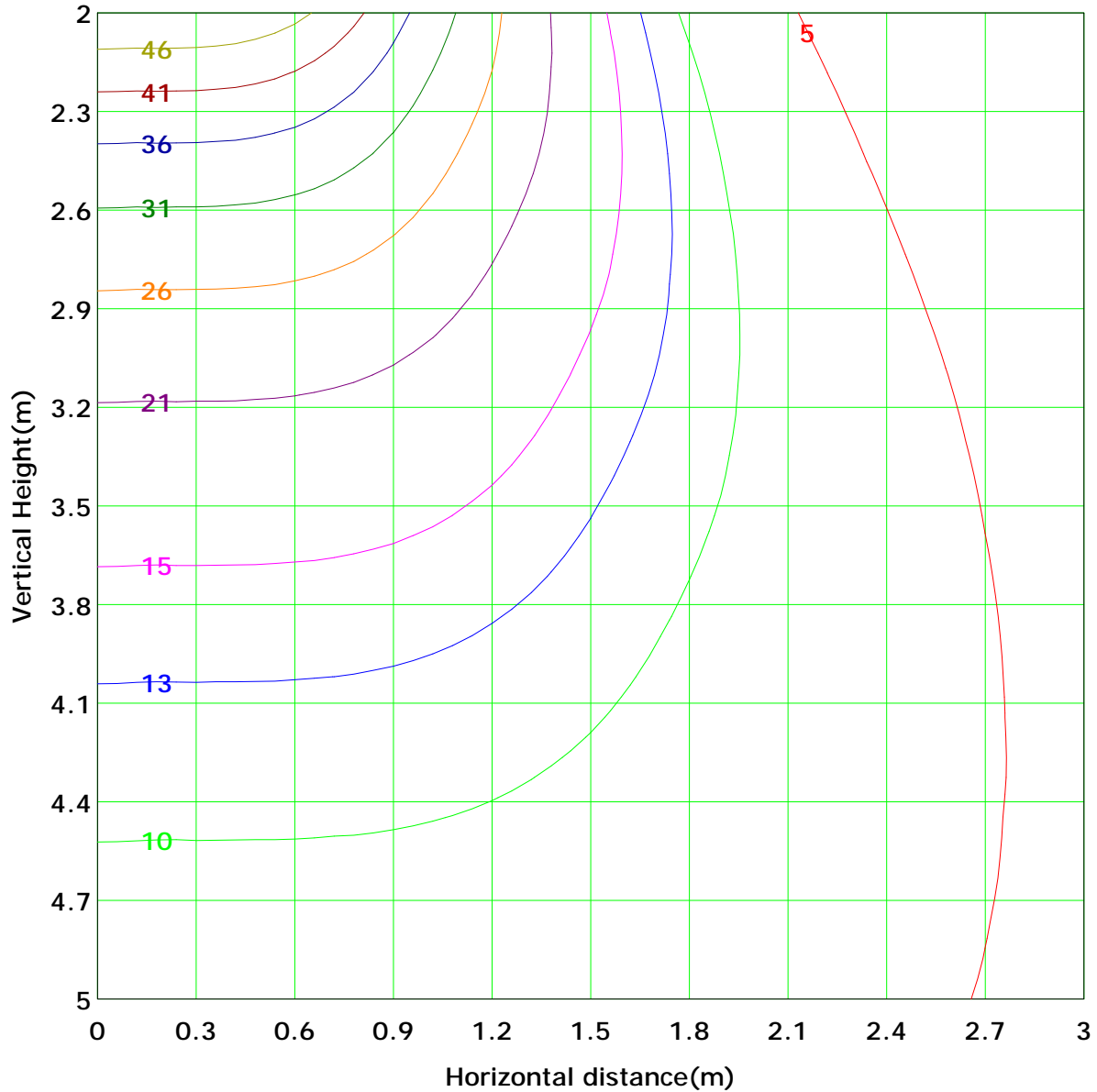
Humidity: 60%

Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 2.0m	Highest(m): 5.0m	Max Lux: 51.4 lx
(10%): 5.1 lx	(20%): 10.3 lx	
(25%): 12.8 lx	(30%): 15.4 lx	
(40%): 20.5 lx	(50%): 25.7 lx	
(60%): 30.8 lx	(70%): 35.9 lx	
(80%): 41.1 lx	(90%): 46.2 lx	

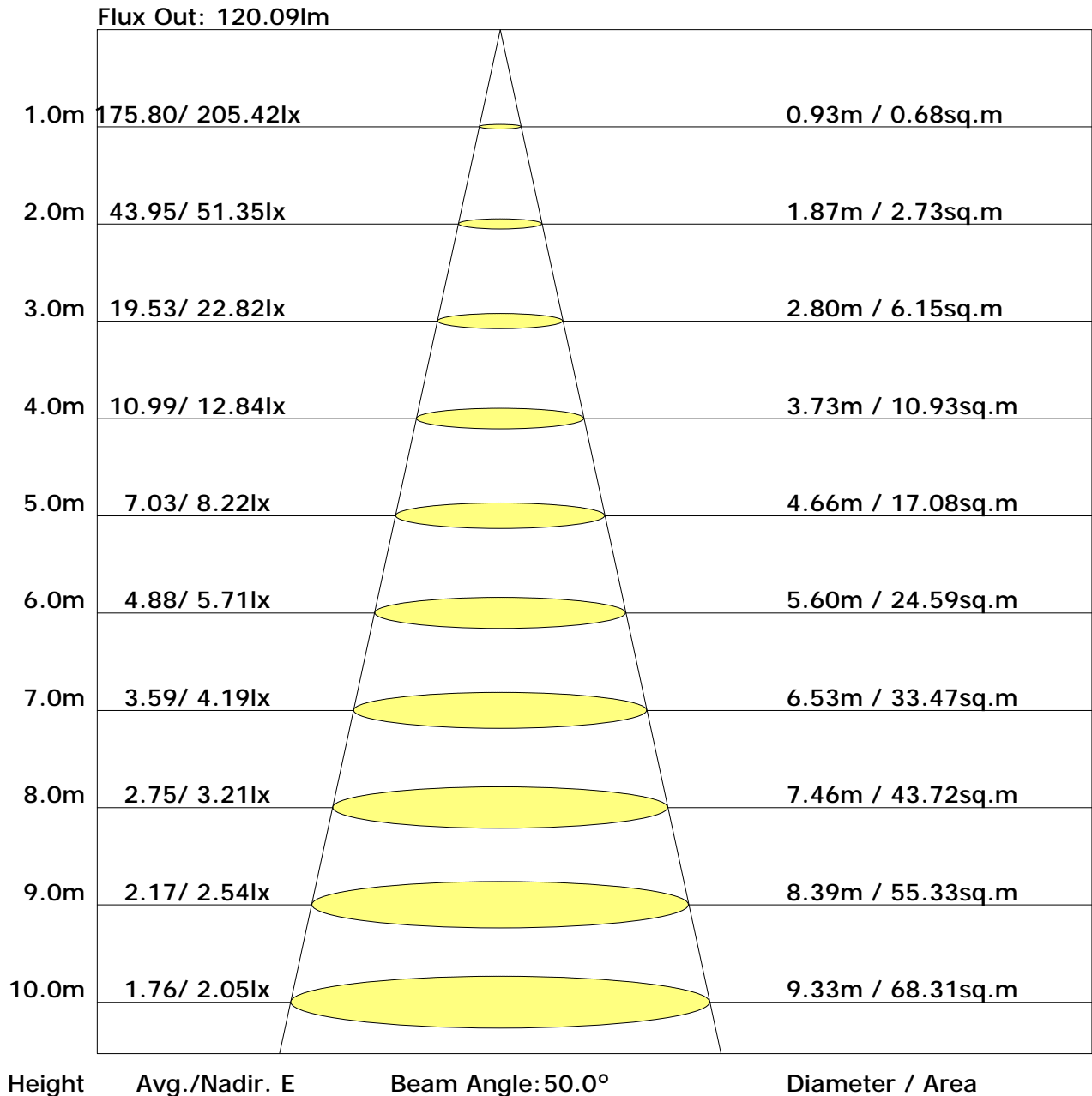
C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

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

Unit: lm

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	10.2	11.5	10.5	11.9	12.2	22.1	23.5	22.5	23.8	24.2
3H	10.1	11.3	10.5	11.7	12.0	23.3	24.5	23.7	24.9	25.2
4H	10.0	11.2	10.4	11.5	11.9	23.6	24.8	24.0	25.1	25.5
6H	9.9	11.0	10.4	11.4	11.8	23.8	24.9	24.2	25.2	25.7
8H	9.9	10.9	10.4	11.3	11.7	23.8	24.8	24.3	25.2	25.7
12H	9.9	10.8	10.3	11.2	11.7	23.8	24.8	24.3	25.2	25.6
X=4H Y=2H	11.9	13.1	12.3	13.4	13.8	22.1	23.2	22.5	23.6	24.0
3H	11.8	12.8	12.3	13.2	13.6	23.4	24.3	23.8	24.8	25.2
4H	11.8	12.6	12.2	13.0	13.5	23.8	24.6	24.2	25.1	25.5
6H	11.7	12.4	12.2	12.9	13.4	24.0	24.7	24.5	25.2	25.7
8H	11.6	12.3	12.1	12.8	13.3	24.1	24.7	24.5	25.2	25.7
12H	11.6	12.2	12.1	12.7	13.2	24.1	24.7	24.6	25.2	25.6
X=8H Y=4H	12.2	12.9	12.7	13.3	13.8	23.7	24.3	24.2	24.8	25.3
6H	12.1	12.6	12.6	13.1	13.6	23.9	24.4	24.4	24.9	25.4
8H	12.0	12.5	12.6	13.1	13.6	23.9	24.4	24.5	24.9	25.5
12H	12.0	12.4	12.5	12.9	13.5	23.9	24.4	24.5	24.9	25.5
X=12H Y=4H	12.2	12.8	12.7	13.3	13.8	23.6	24.2	24.1	24.7	25.2
6H	12.1	12.6	12.6	13.1	13.6	23.8	24.3	24.4	24.8	25.4
8H	12.1	12.5	12.6	13.0	13.6	23.9	24.3	24.4	24.8	25.4

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 = 1.25								
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	0.68	0.78	0.85	0.89	0.95	0.99	1.02	1.05	1.07
	0.30		0.62	0.72	0.79	0.84	0.90	0.95	0.98	1.02	1.05
	0.20		0.57	0.67	0.74	0.79	0.86	0.91	0.95	0.99	1.02
0.50	0.50	0.20	0.67	0.76	0.82	0.86	0.92	0.95	0.98	1.01	1.03
	0.30		0.61	0.71	0.77	0.82	0.88	0.92	0.95	0.98	1.01
	0.20		0.57	0.67	0.73	0.78	0.85	0.89	0.92	0.96	0.99
0.30	0.50	0.20	0.65	0.74	0.80	0.84	0.89	0.92	0.94	0.97	0.99
	0.30		0.60	0.70	0.76	0.80	0.86	0.89	0.92	0.95	0.97
	0.20		0.56	0.66	0.72	0.77	0.83	0.87	0.90	0.93	0.96
0.00	0.00	0.00	0.54	0.64	0.70	0.74	0.80	0.83	0.86	0.89	0.91
<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(Wall)

Utilisation Factors UF(W)			SHR NOM = 1.25								
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	0.82	0.65	0.55	0.47	0.37	0.30	0.26	0.20	0.16
	0.30		0.68	0.56	0.48	0.42	0.33	0.28	0.24	0.18	0.15
	0.20		0.59	0.49	0.42	0.37	0.30	0.26	0.22	0.17	0.14
0.50	0.50	0.20	0.79	0.62	0.52	0.44	0.35	0.32	0.24	0.18	0.15
	0.30		0.66	0.54	0.46	0.40	0.32	0.26	0.22	0.17	0.14
	0.20		0.58	0.48	0.41	0.36	0.29	0.24	0.21	0.17	0.14
0.30	0.50	0.20	0.76	0.60	0.49	0.42	0.33	0.27	0.23	0.17	0.14
	0.30		0.65	0.52	0.44	0.38	0.30	0.25	0.21	0.16	0.13
	0.20		0.57	0.47	0.40	0.35	0.28	0.23	0.20	0.16	0.13
0.00	0.00	0.00	0.45	0.36	0.30	0.25	0.20	0.16	0.14	0.10	0.08
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(Ceiling cavity)

Utilisation Factors UF(C)			SHR NOM = 1.25								
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	0.17	0.18	0.18	0.20	0.20	0.21	0.21	0.22
	0.30		0.10	0.12	0.13	0.14	0.16	0.17	0.18	0.19	0.20
	0.20		0.06	0.08	0.09	0.11	0.13	0.14	0.15	0.17	0.18
0.50	0.50	0.20	0.15	0.16	0.17	0.18	0.19	0.19	0.20	0.21	0.21
	0.30		0.10	0.11	0.13	0.14	0.15	0.16	0.17	0.18	0.19
	0.20		0.06	0.08	0.09	0.11	0.12	0.14	0.15	0.17	0.18
0.30	0.50	0.20	0.15	0.16	0.16	0.17	0.18	0.19	0.19	0.20	0.20
	0.30		0.10	0.11	0.12	0.13	0.15	0.16	0.17	0.18	0.19
	0.20		0.06	0.08	0.09	0.10	0.12	0.14	0.15	0.16	0.17
0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
<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>											