

Report No.: 01

Test Time: 2016/11/28 09:38

Luminaire Property

Luminaire Manufacturer:

Luminaire Category: Synthesis LED Linear

Luminaire Description: Synthesis Direct LO 28CM 135 mA 2700K 40degree

Luminous Length (mm): 290

Luminous Width (mm): 50

Luminous Height (mm): 40

Voltage: 119.8 V

Current: 0.041 A

Power: 4.85 W

Power Factor: 0.984

Photometric Results

CIE Class: Direct

Measurement Flux: 609.3 lm

Downward Ratio: 100%

Horizontal Diffuse Angle(50%): H47.7

Vertical Diffuse Angle(50%): V47.6

Luminaire Efficacy Rating (LER): 126

Max. Intensity: 1006.72 cd

Total Rated Lamp Lumens: 609.3 lm

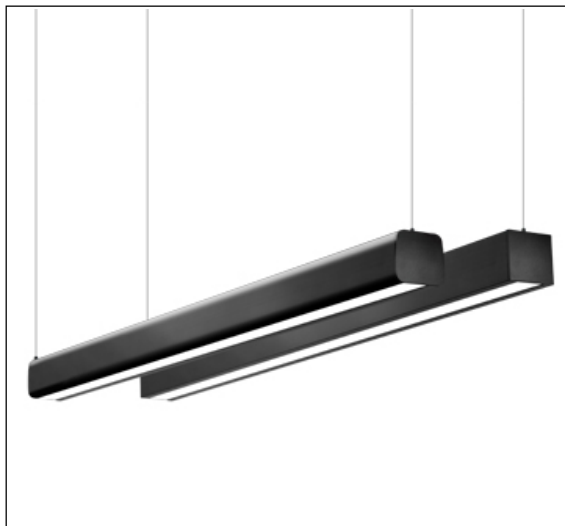
Efficiency: 100%

Upward Ratio: 0%

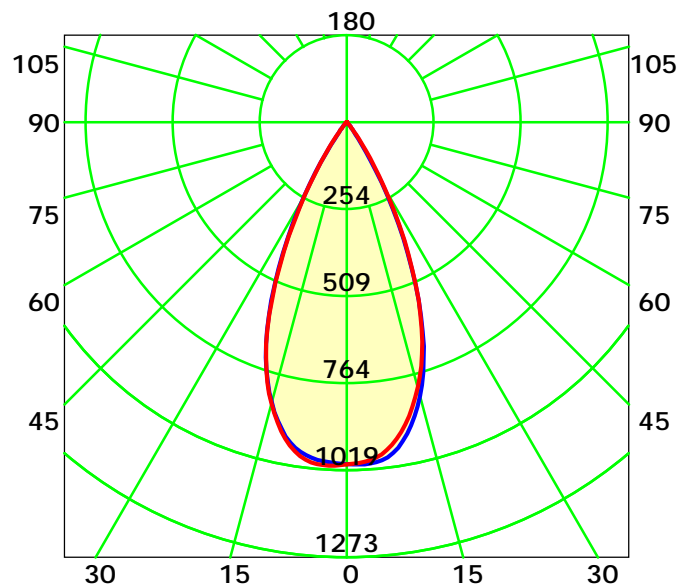
Central Intensity: 1001.15 cd

Pos of Max. Intensity: H270 V3

Picture Of Luminaire



Luminous Intensity Distribution Curve



Average Diffuse Angle(50%): 47.7° Unit: cd

— 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 (°):0.0-90.0: 1.0

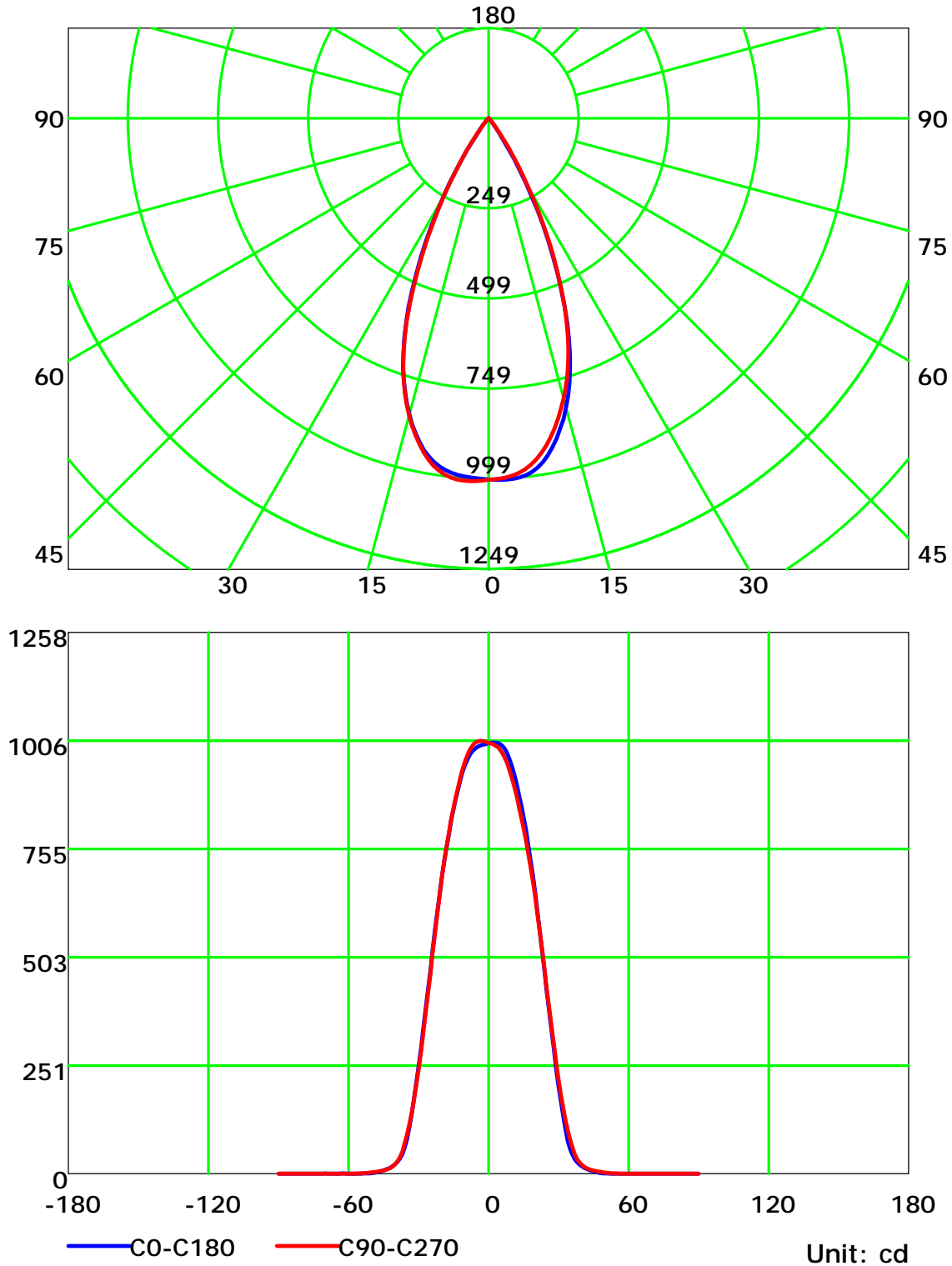
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

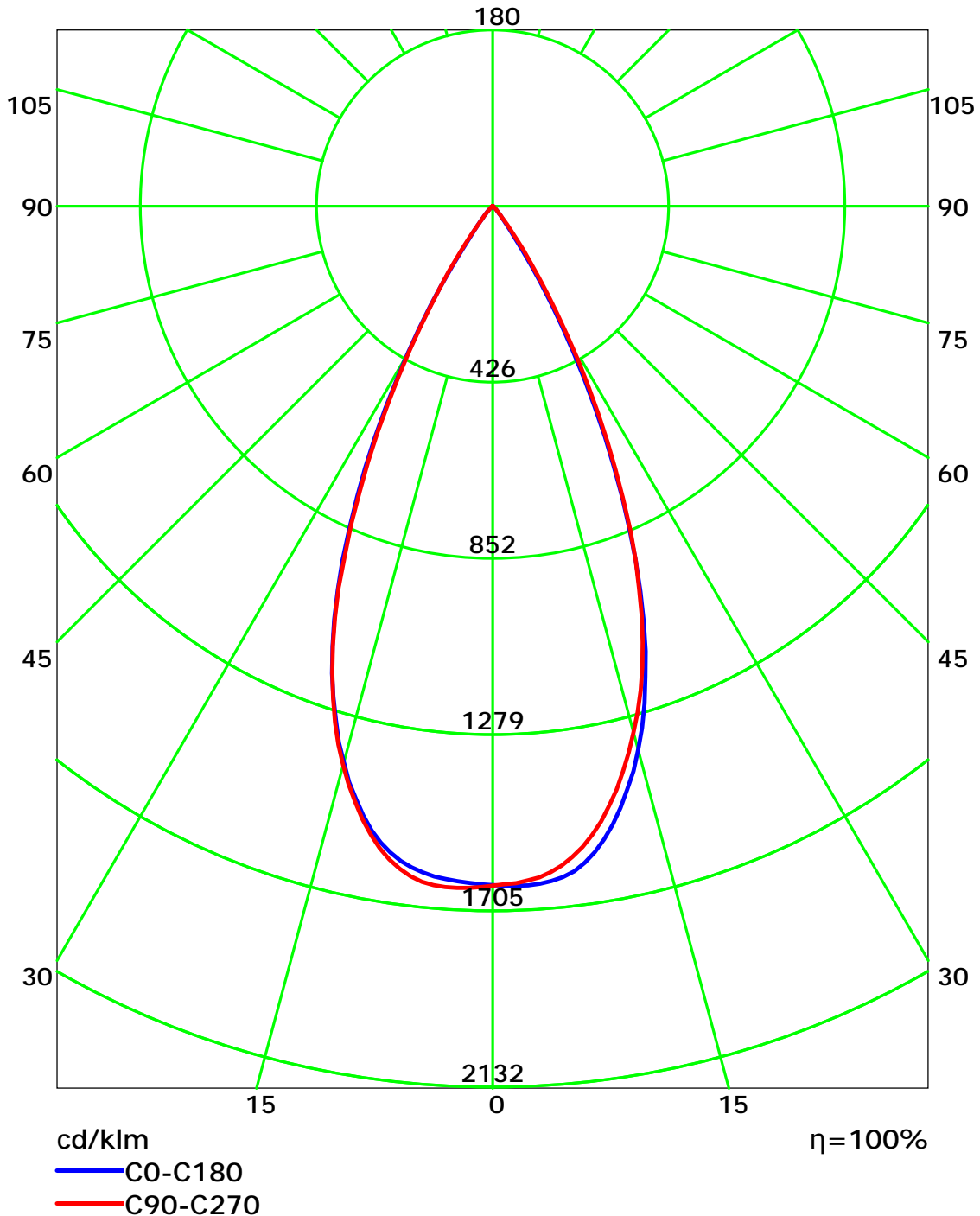
Luminous Intensity Distribution Curve



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

Gamma Plane (°):0.0-90.0:1.0
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 (°):0.0-90.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

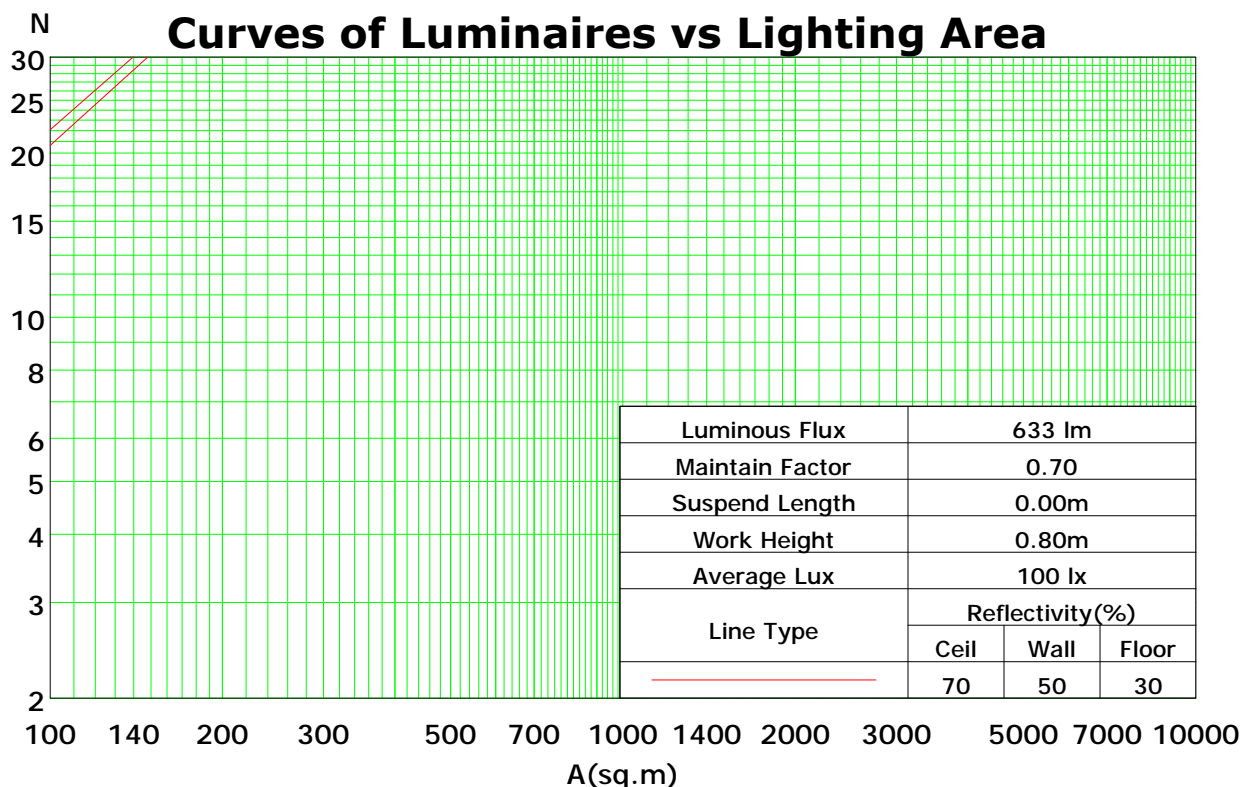
Coefficients Of Utilization - Zonal Cavity Method

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	102	102	102	100
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	90
3	105	99	95	91	103	98	94	90	95	92	89	93	90	88	90	88	86	85
4	100	94	89	85	99	92	88	84	90	87	84	88	85	83	87	84	82	80
5	96	89	84	80	94	88	83	79	86	82	79	84	81	78	83	80	77	76
6	92	84	79	75	91	83	79	75	82	78	74	81	77	74	79	76	74	72
7	88	80	75	71	87	80	75	71	78	74	71	77	73	70	76	73	70	69
8	85	76	71	68	84	76	71	67	75	70	67	74	70	67	73	69	67	65
9	81	73	68	64	80	72	67	64	72	67	64	71	67	64	70	66	63	62
10	78	70	65	61	77	69	64	61	69	64	61	68	64	61	67	63	61	59

Spacing Criteria (0-180): 0.78

Spacing Criteria (90-270): 0.78

Spacing Criteria (Diagonal): 0.74



C Plane (°):0.0-360.0: 30.0

Test Lab: ACOLYTE

Test Type: TYPE C

Temperature: 25°C

Operator: leo

Gamma Plane (°):0.0-90.0: 1.0

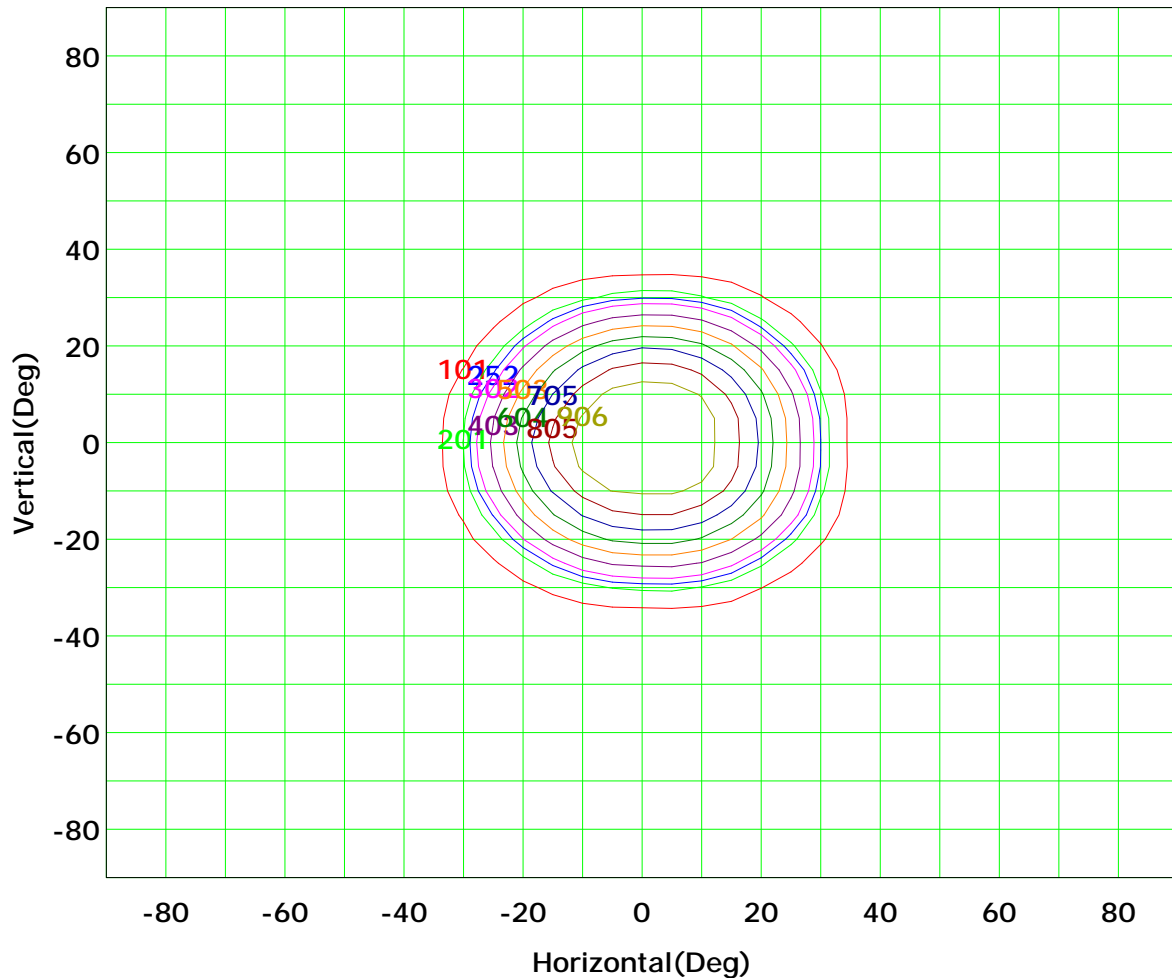
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

Isocandela (rectangle)



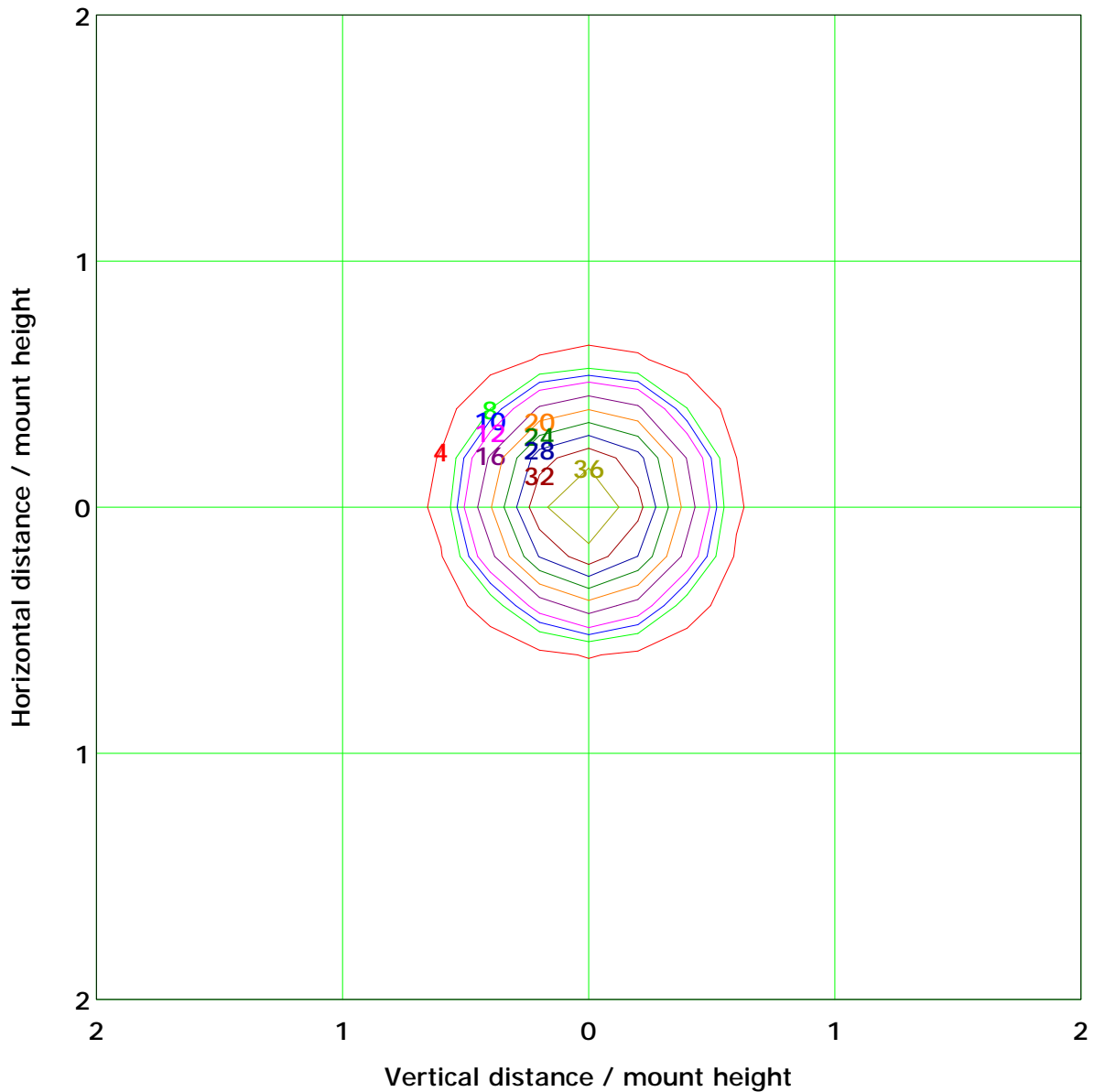
Imax (100%): 1007 cd

(10%): 101 cd	(20%): 201 cd
(25%): 252 cd	(30%): 302 cd
(40%): 403 cd	(50%): 503 cd
(60%): 604 cd	(70%): 705 cd
(80%): 805 cd	(90%): 906 cd

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

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

IsoLux Plot



Mounting Height: 5.0m Max Lux(100%): 40.2 lx	
(10%): 4.0 lx	(20%): 8.0 lx
(25%): 10.0 lx	(30%): 12.0 lx
(40%): 16.1 lx	(50%): 20.1 lx
(60%): 24.1 lx	(70%): 28.1 lx
(80%): 32.1 lx	(90%): 36.1 lx

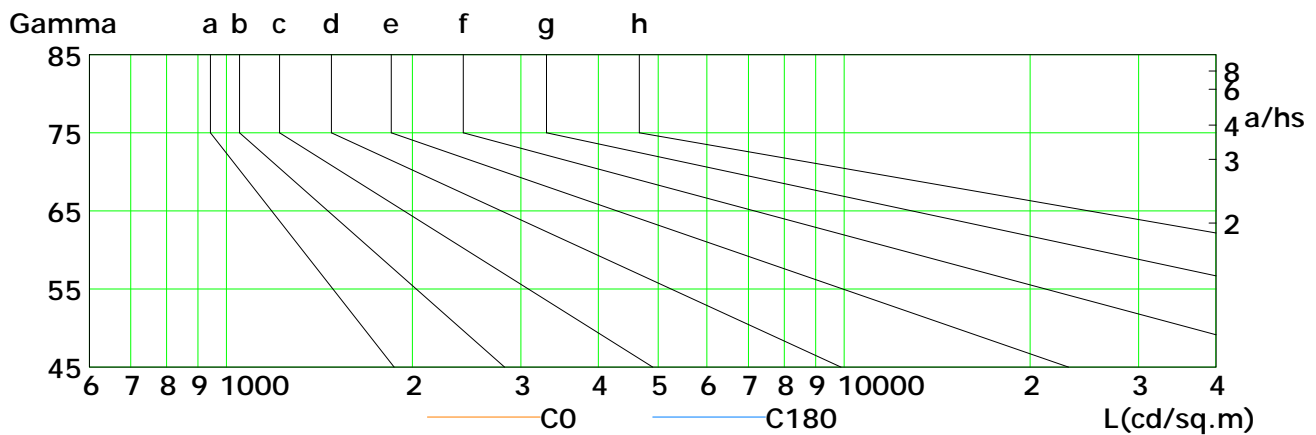
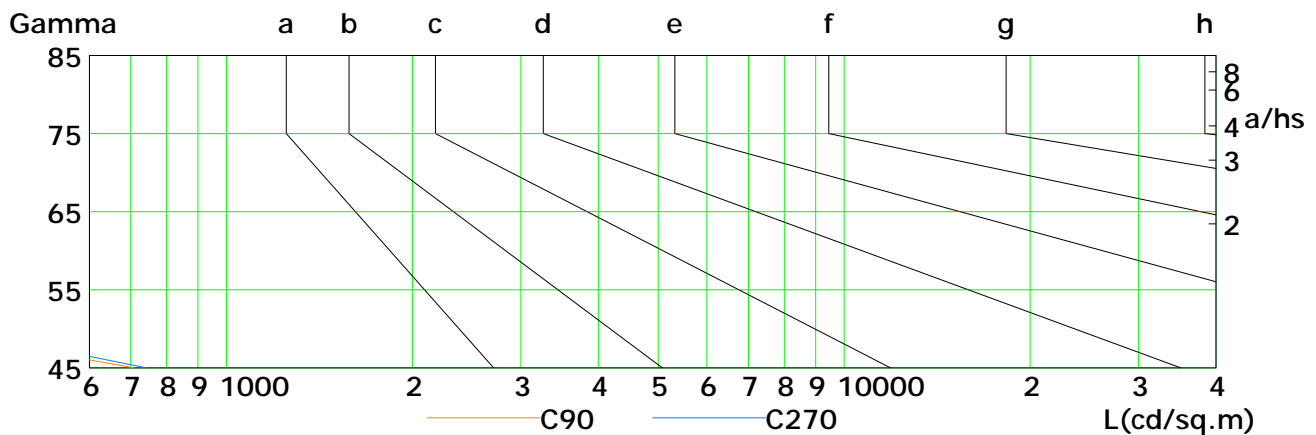
C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°):0.0-90.0:1.0
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	336	79	67	64	74	76	76	84	87
C90	710	321	144	110	128	142	155	196	289
C180	476	108	69	69	72	79	80	82	89
C270	742	361	147	114	125	137	179	196	289

C Plane (°):0.0-360.0: 30.0

Test Lab: ACOLYTE

Test Type: TYPE C

Temperature: 25°C

Operator: leo

Gamma Plane (°):0.0-90.0:1.0

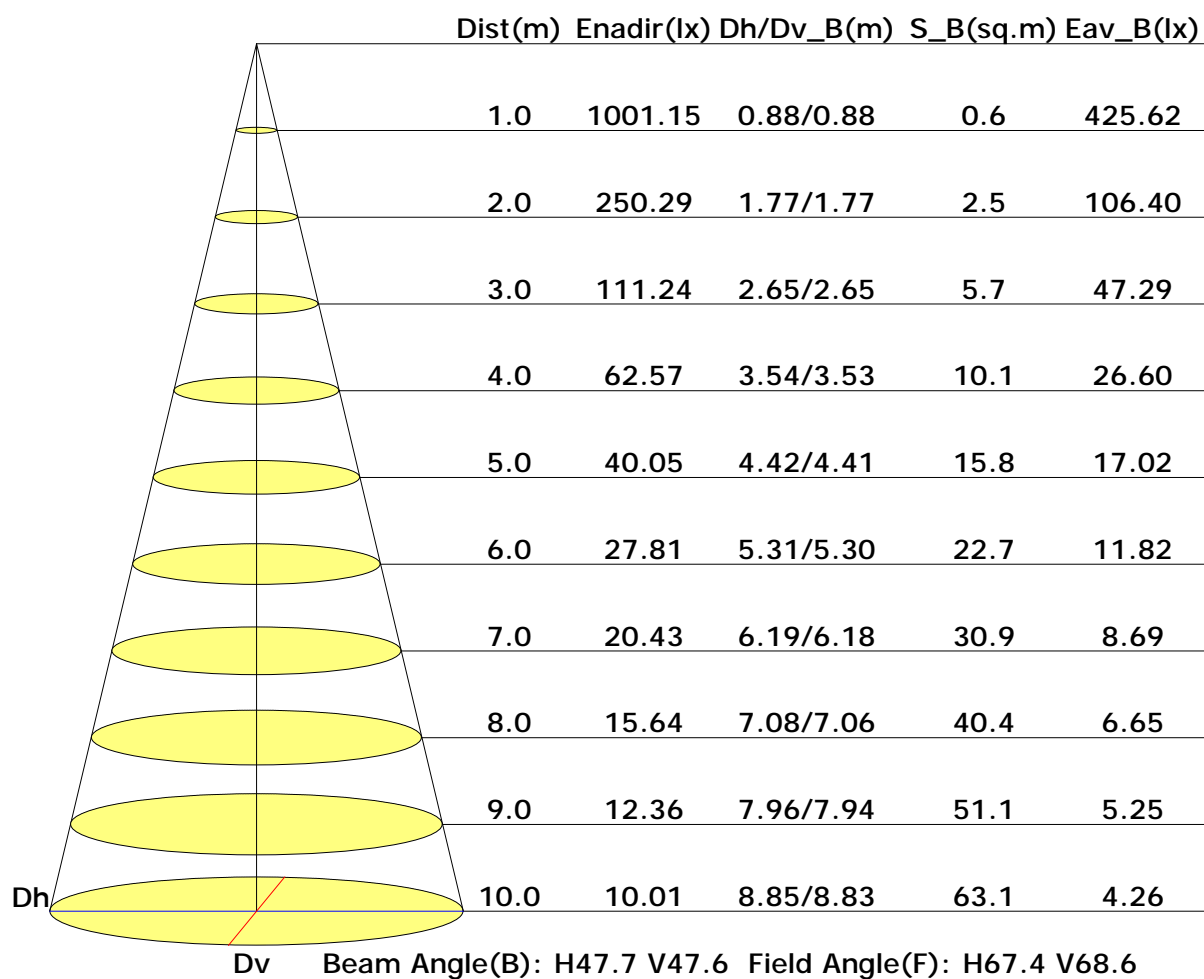
Test Device: GPM-1800B

Distance: 9.028 m

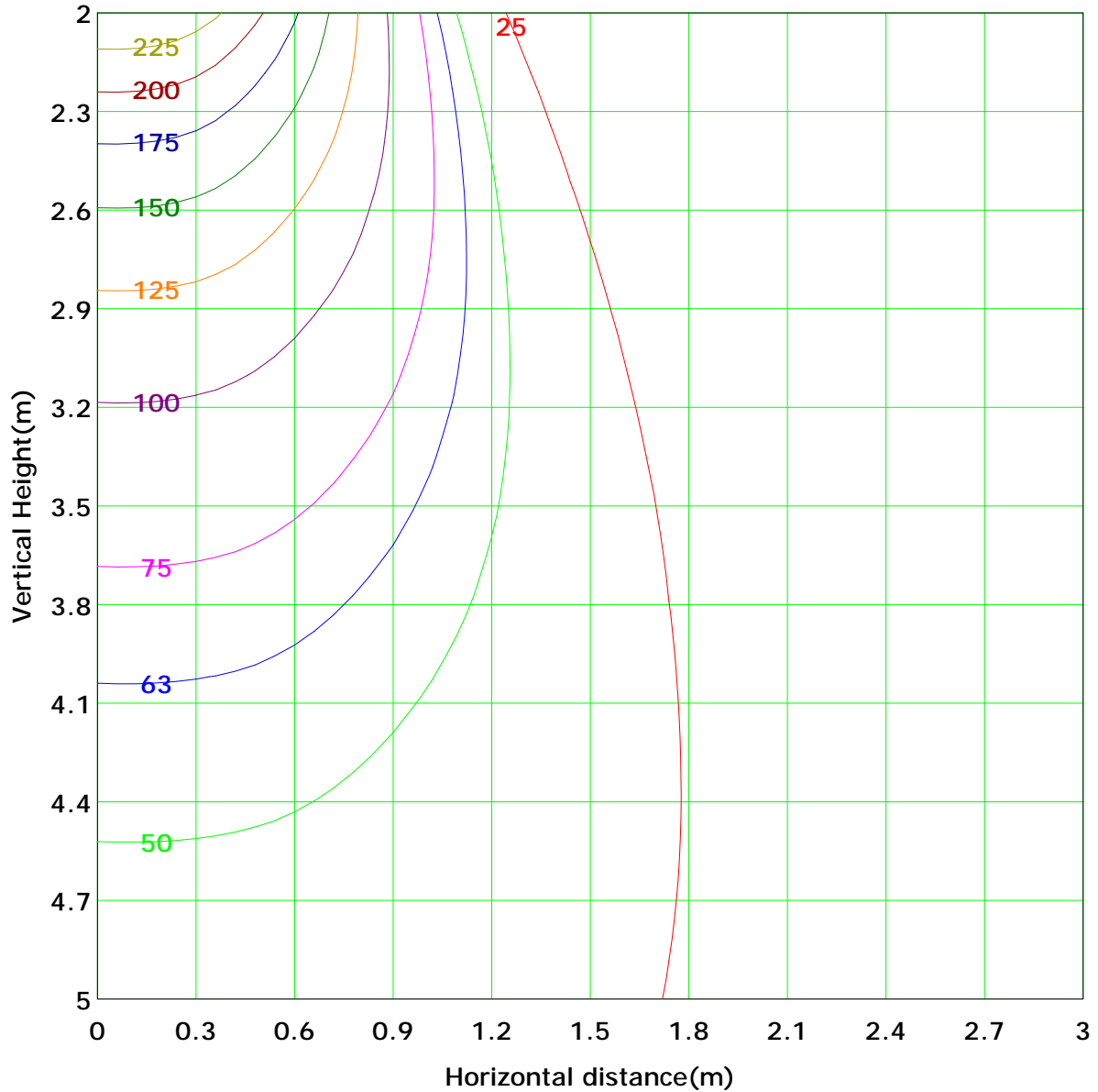
Humidity: 60%

Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 2.0m	Highest(m): 5.0m	Max Lux: 250.4 lx
(10%): 25.0 lx	(20%): 50.1 lx	
(25%): 62.6 lx	(30%): 75.1 lx	
(40%): 100.2 lx	(50%): 125.2 lx	
(60%): 150.2 lx	(70%): 175.3 lx	
(80%): 200.3 lx	(90%): 225.4 lx	

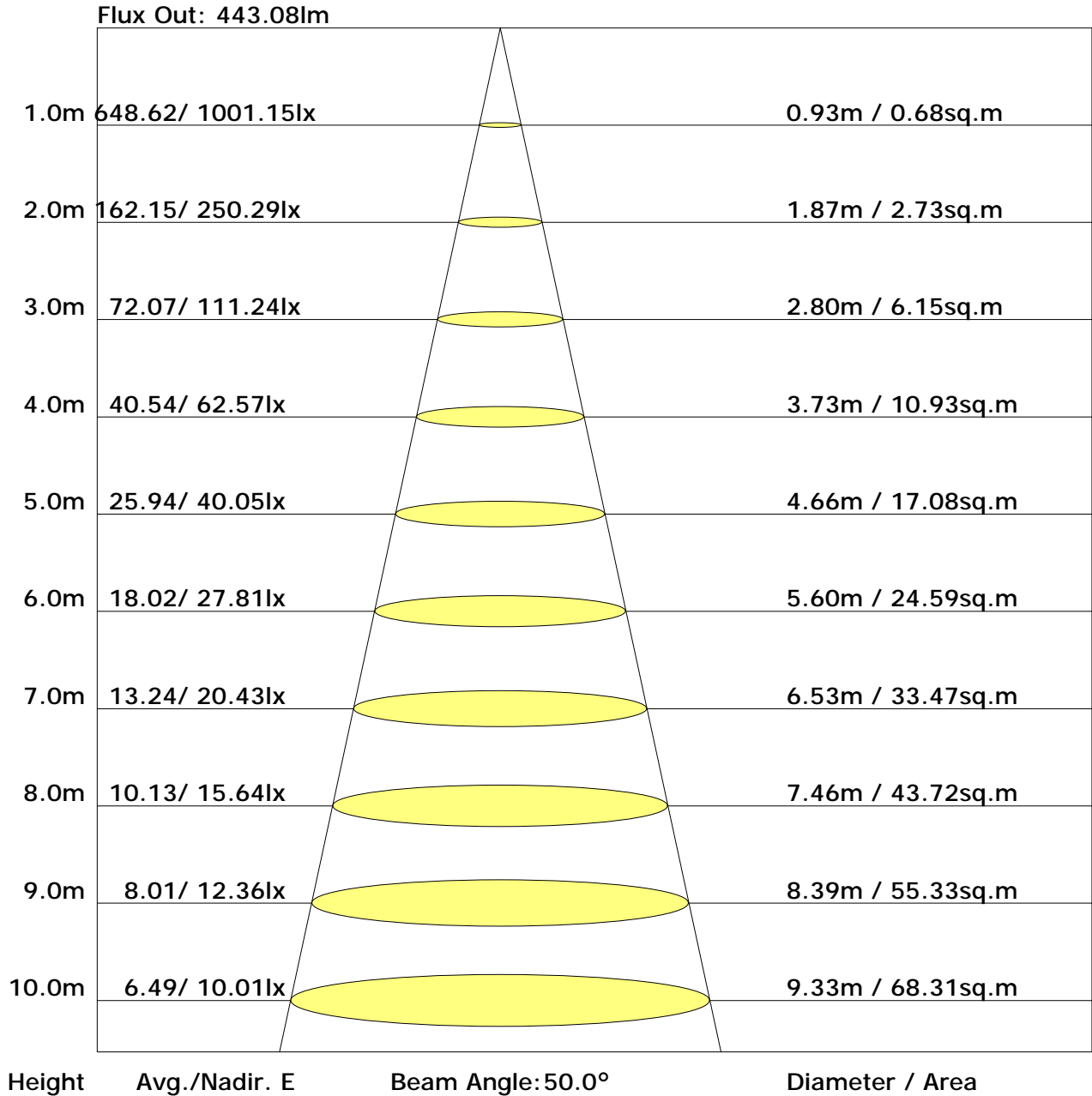
C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Unit: 1m

Gamma Plane (°):0.0-90.0:1.0
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	-9.6	-8.7	-9.2	-8.3	-8.0	-9.5	-8.6	-9.1	-8.2	-7.9
3H	-6.1	-5.3	-5.7	-5.0	-4.6	-7.5	-6.8	-7.2	-6.4	-6.0
4H	-4.3	-3.6	-3.9	-3.2	-2.8	-6.5	-5.7	-6.1	-5.4	-5.0
6H	-2.4	-1.7	-2.0	-1.4	-1.0	-5.3	-4.7	-4.9	-4.3	-3.9
8H	-1.5	-0.9	-1.1	-0.5	-0.1	-4.7	-4.1	-4.3	-3.7	-3.3
12H	-0.6	0.0	-0.1	0.4	0.8	-4.1	-3.5	-3.7	-3.2	-2.7
X=4H Y=2H	-9.1	-8.4	-8.7	-8.0	-7.6	-9.0	-8.3	-8.6	-7.9	-7.6
3H	-5.5	-4.9	-5.0	-4.4	-4.0	-6.7	-6.1	-6.3	-5.7	-5.3
4H	-3.6	-3.0	-3.1	-2.6	-2.1	-5.4	-4.9	-5.0	-4.5	-4.0
6H	-1.5	-1.0	-1.0	-0.6	-0.1	-4.1	-3.6	-3.6	-3.2	-2.7
8H	-0.5	-0.0	0.0	0.4	0.9	-3.4	-2.9	-2.9	-2.5	-2.0
12H	0.6	0.9	1.1	1.4	1.9	-2.7	-2.3	-2.2	-1.8	-1.4
X=8H Y=4H	-3.3	-2.8	-2.8	-2.4	-1.9	-4.8	-4.3	-4.3	-3.9	-3.4
6H	-1.0	-0.7	-0.5	-0.2	0.3	-3.2	-2.9	-2.7	-2.4	-1.9
8H	0.1	0.4	0.7	1.0	1.5	-2.3	-2.0	-1.8	-1.5	-1.0
12H	1.4	1.6	1.9	2.1	2.7	-1.5	-1.2	-1.0	-0.7	-0.1
X=12H Y=4H	-3.2	-2.9	-2.7	-2.4	-1.9	-4.6	-4.2	-4.1	-3.8	-3.3
6H	-0.9	-0.6	-0.4	-0.2	0.4	-2.9	-2.6	-2.4	-2.2	-1.6
8H	0.3	0.6	0.8	1.1	1.6	-2.0	-1.7	-1.4	-1.2	-0.6

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 (°):0.0-90.0:1.0
 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	0.90	0.95	0.99	1.02	1.05	1.07	1.09	1.11	1.12
	0.30		0.86	0.92	0.95	0.98	1.02	1.04	1.06	1.09	1.10
	0.20		0.83	0.89	0.93	0.96	1.00	1.02	1.04	1.07	1.09
0.50	0.50	0.20	0.89	0.94	0.97	0.99	1.02	1.04	1.05	1.07	1.08
	0.30		0.85	0.91	0.94	0.96	1.00	1.02	1.03	1.05	1.06
	0.20		0.83	0.88	0.92	0.94	0.98	1.00	1.02	1.04	1.05
0.30	0.50	0.20	0.88	0.92	0.95	0.97	1.00	1.01	1.02	1.03	1.04
	0.30		0.85	0.90	0.93	0.95	0.98	0.99	1.01	1.02	1.03
	0.20		0.82	0.87	0.91	0.93	0.96	0.98	0.99	1.01	1.02
0.00	0.00	0.00	0.81	0.86	0.88	0.90	0.93	0.94	0.95	0.97	0.98
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	0.51	0.41	0.34	0.30	0.23	0.19	0.17	0.13	0.10
	0.30		0.42	0.35	0.30	0.26	0.21	0.18	0.15	0.12	0.10
	0.20		0.36	0.30	0.27	0.23	0.19	0.16	0.14	0.11	0.09
0.50	0.50	0.20	0.48	0.38	0.32	0.27	0.22	0.22	0.15	0.12	0.09
	0.30		0.41	0.33	0.28	0.25	0.20	0.16	0.14	0.11	0.09
	0.20		0.35	0.29	0.25	0.22	0.18	0.15	0.13	0.10	0.09
0.30	0.50	0.20	0.46	0.36	0.30	0.25	0.20	0.16	0.14	0.10	0.09
	0.30		0.39	0.32	0.27	0.23	0.18	0.15	0.13	0.10	0.08
	0.20		0.34	0.28	0.24	0.21	0.17	0.14	0.12	0.10	0.08
0.00	0.00	0.00	0.20	0.15	0.13	0.11	0.08	0.07	0.05	0.04	0.03
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 = 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	0.12	0.14	0.15	0.16	0.18	0.19	0.19	0.20	0.21
	0.30		0.09	0.11	0.12	0.13	0.15	0.17	0.17	0.19	0.20
	0.20		0.06	0.08	0.10	0.11	0.13	0.15	0.16	0.17	0.18
0.50	0.50	0.20	0.12	0.13	0.15	0.16	0.17	0.18	0.18	0.19	0.20
	0.30		0.09	0.10	0.12	0.13	0.15	0.16	0.17	0.18	0.19
	0.20		0.06	0.08	0.10	0.11	0.13	0.14	0.15	0.17	0.18
0.30	0.50	0.20	0.11	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.19
	0.30		0.08	0.10	0.12	0.13	0.14	0.16	0.16	0.17	0.18
	0.20		0.06	0.08	0.10	0.11	0.13	0.14	0.15	0.16	0.17
0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Rating:5W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980											