

Report No.: 01

Test Time: 2016/11/25 14:32

Luminaire Property

Luminaire Manufacturer:

Luminaire Category: Synthesis LED Linear

Luminaire Description: Synthesis Direct LO 28CM 135 mA 2700K 26degree

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: 558.5 lm

Downward Ratio: 100%

Horizontal Diffuse Angle(50%): H28.4

Vertical Diffuse Angle(50%): V28.9

Luminaire Efficacy Rating (LER): 115

Max. Intensity: 1856.14 cd

Total Rated Lamp Lumens: 558.5 lm

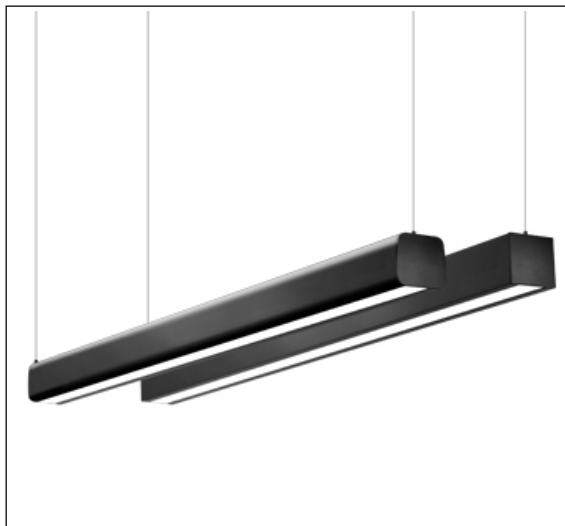
Efficiency: 100%

Upward Ratio: 0%

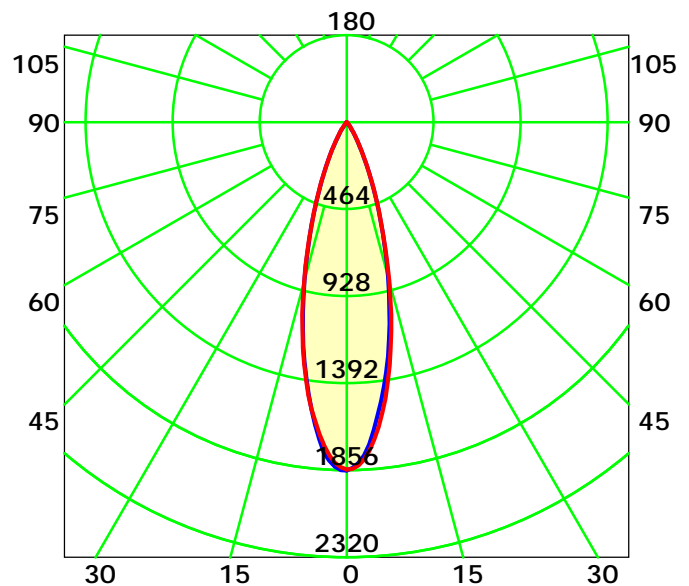
Central Intensity: 1856.13 cd

Pos of Max. Intensity: H0 V0

Picture Of Luminaire



Luminous Intensity Distribution Curve



Average Diffuse Angle(50%): 28.7° 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

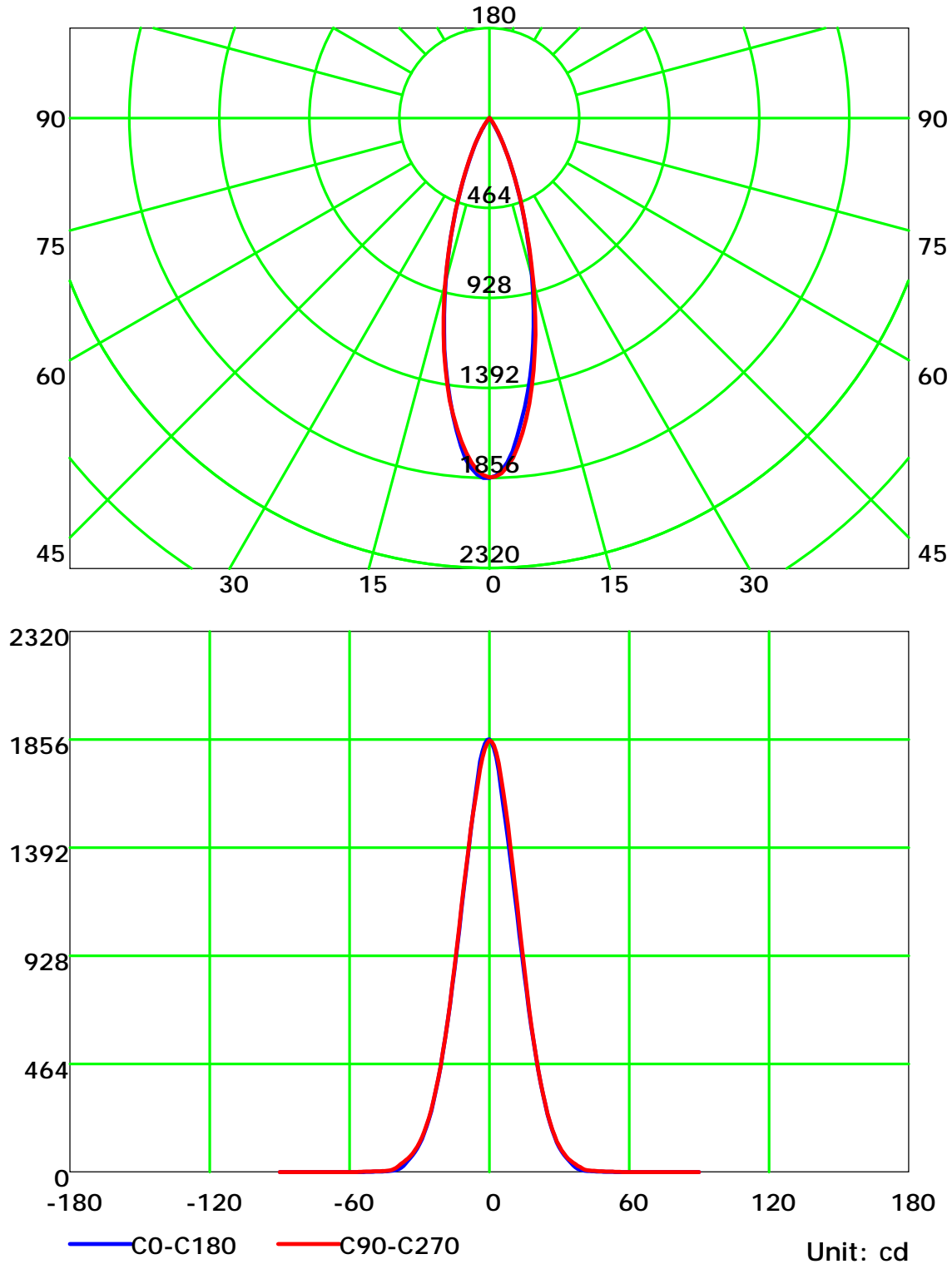
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

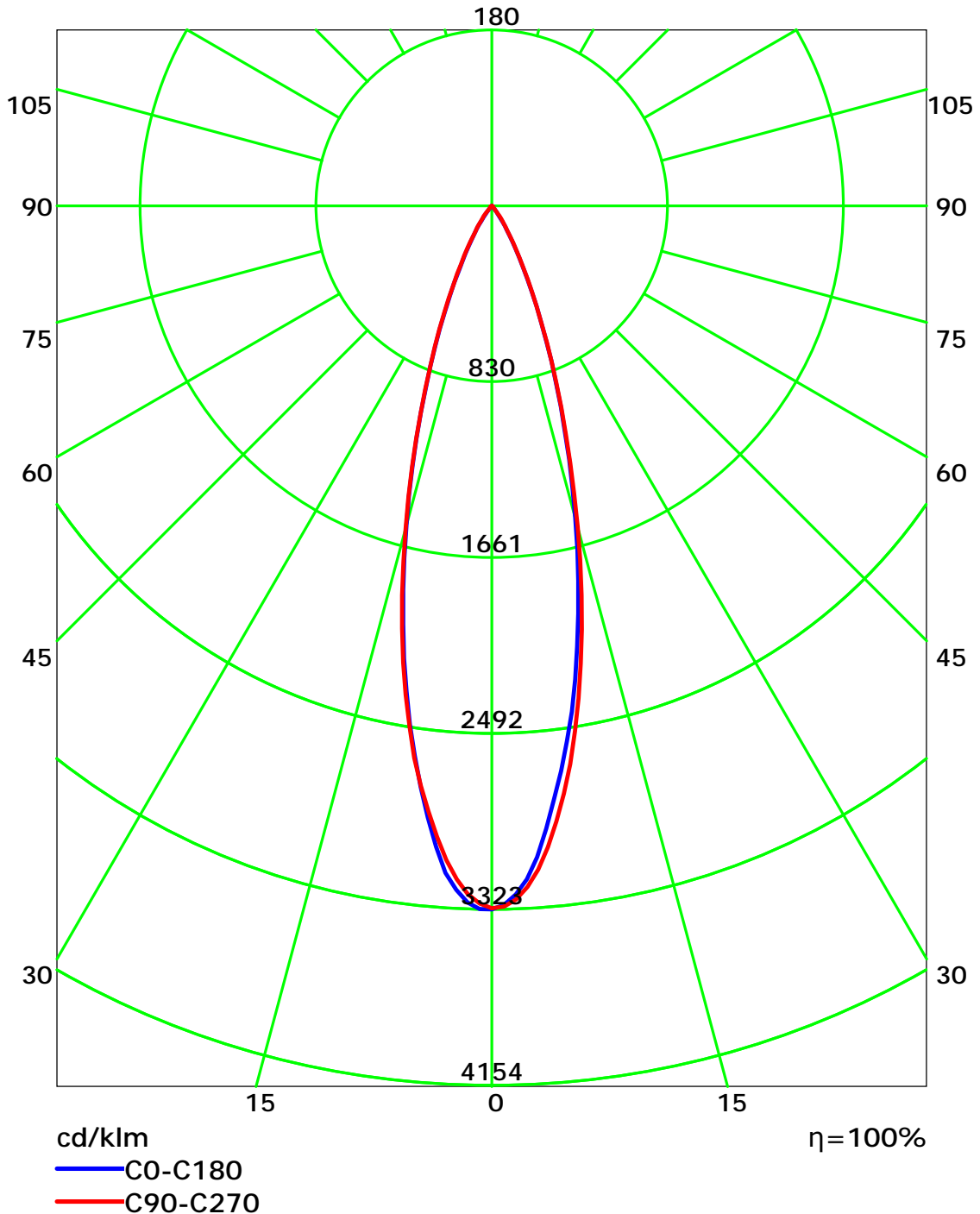
Luminous Intensity Distribution Curve



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:

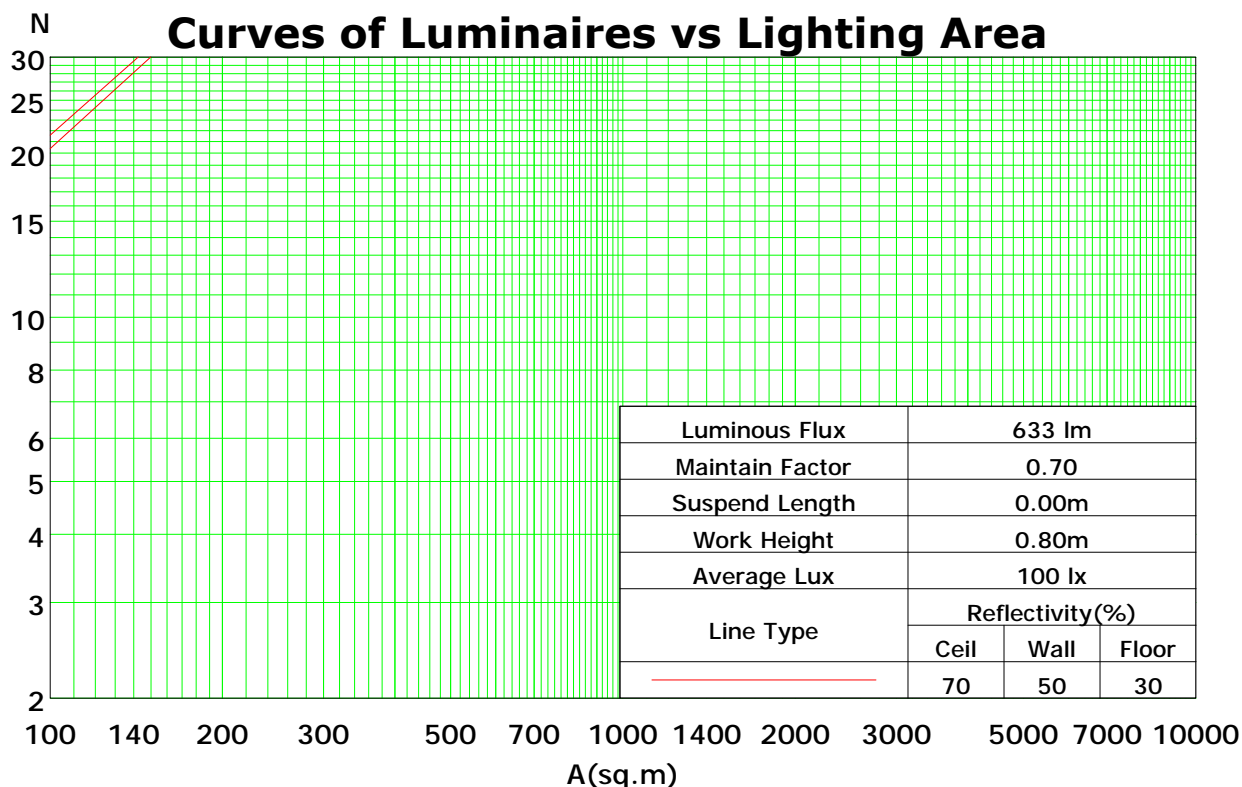
Coefficients Of Utilization - Zonal Cavity Method

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	115	112	110	108	112	110	108	107	106	105	103	102	101	100	99	98	97	96
2	110	106	103	100	108	105	102	99	102	99	97	99	97	95	96	94	93	92
3	106	101	97	94	104	100	96	93	97	94	92	95	93	90	93	91	89	88
4	102	97	92	89	101	95	91	88	93	90	87	92	89	86	90	87	85	84
5	99	92	88	84	97	92	87	84	90	86	83	88	85	83	87	84	82	81
6	96	89	84	81	94	88	84	80	87	83	80	85	82	79	84	81	79	78
7	92	85	80	77	91	85	80	77	83	80	77	82	79	76	81	78	76	75
8	89	82	77	74	88	81	77	74	81	77	74	80	76	73	79	76	73	72
9	86	79	74	71	86	79	74	71	78	74	71	77	73	71	76	73	71	70
10	84	76	72	69	83	76	72	69	75	71	69	75	71	68	74	71	68	67

Spacing Criteria (0-180): 0.47

Spacing Criteria (90-270): 0.48

Spacing Criteria (Diagonal): 0.49



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

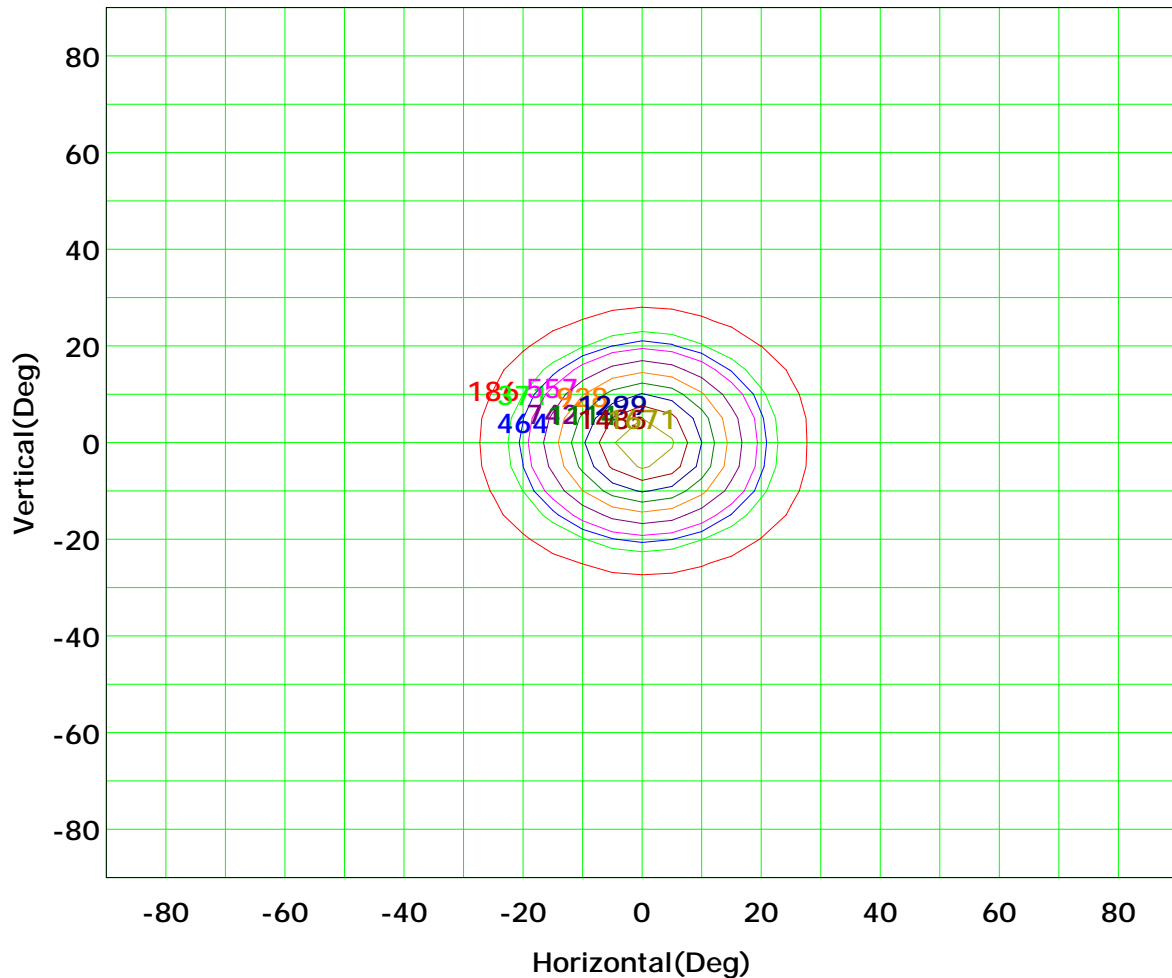
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

Isocandela (rectangle)



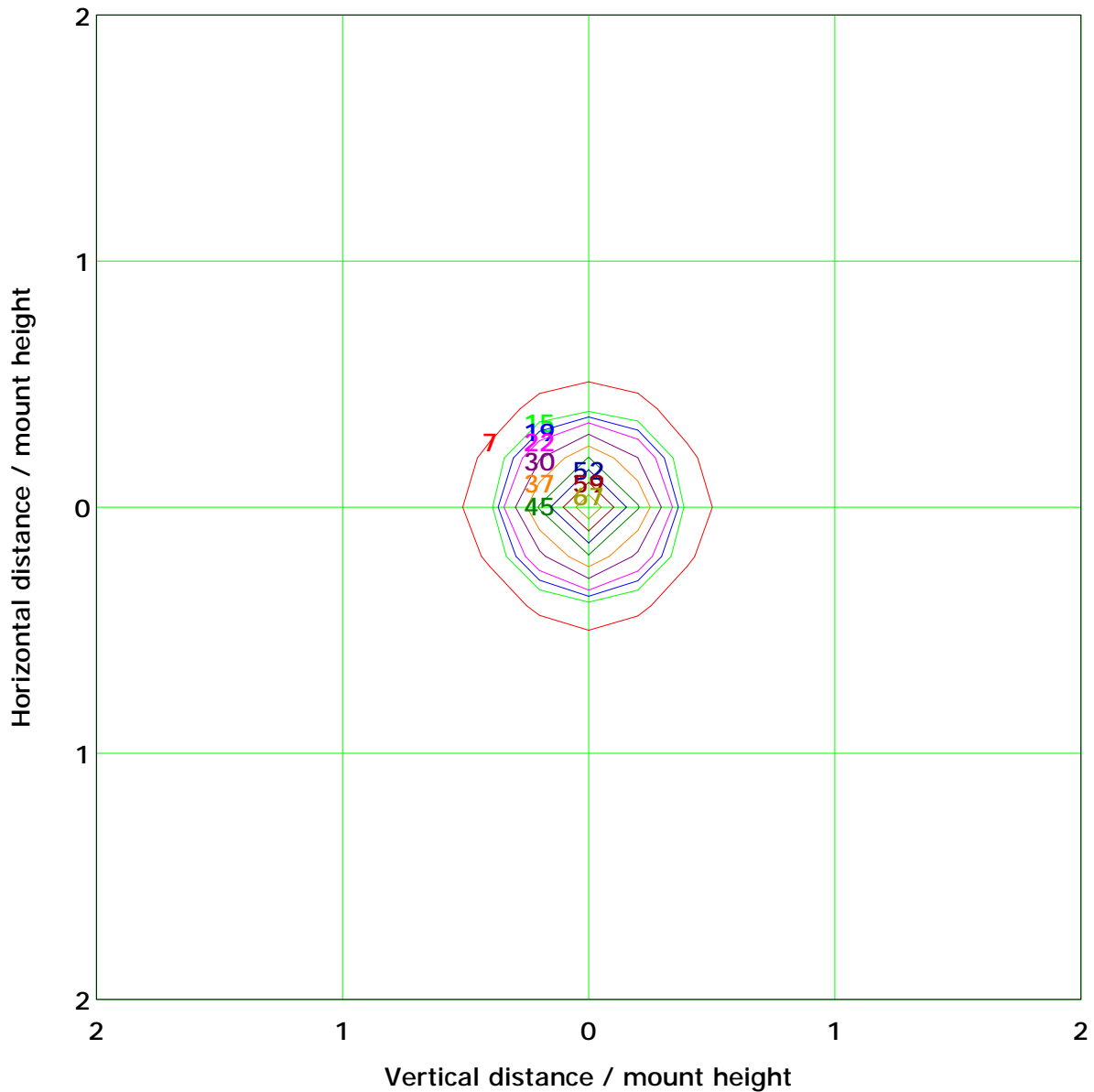
Imax (100%): 1856 cd

(10%): 186 cd	(20%): 371 cd
(25%): 464 cd	(30%): 557 cd
(40%): 742 cd	(50%): 928 cd
(60%): 1114 cd	(70%): 1299 cd
(80%): 1485 cd	(90%): 1671 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%): 74.2 lx	
(10%):	7.4 lx	(20%):	14.8 lx
(25%):	18.6 lx	(30%):	22.3 lx
(40%):	29.7 lx	(50%):	37.1 lx
(60%):	44.5 lx	(70%):	52.0 lx
(80%):	59.4 lx	(90%):	66.8 lx

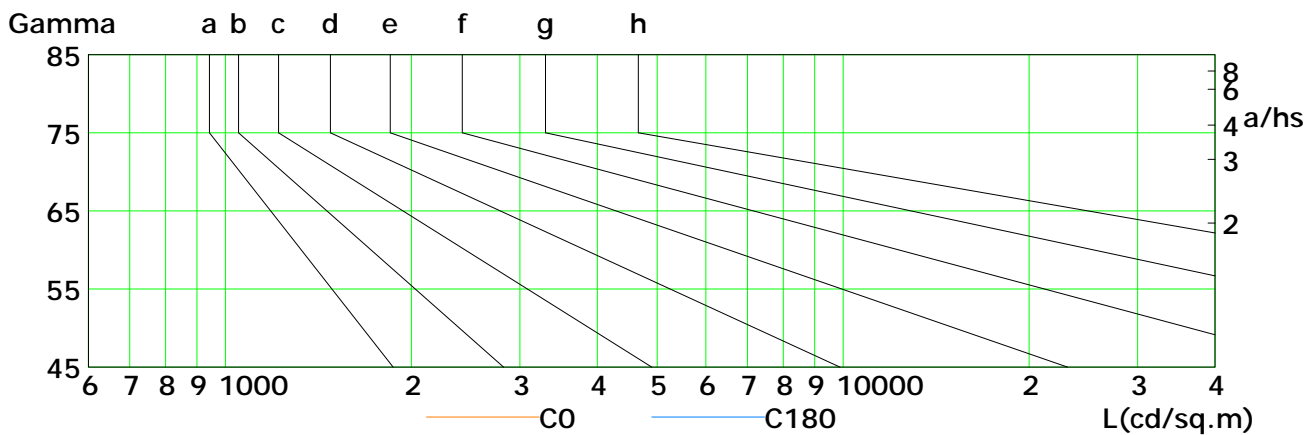
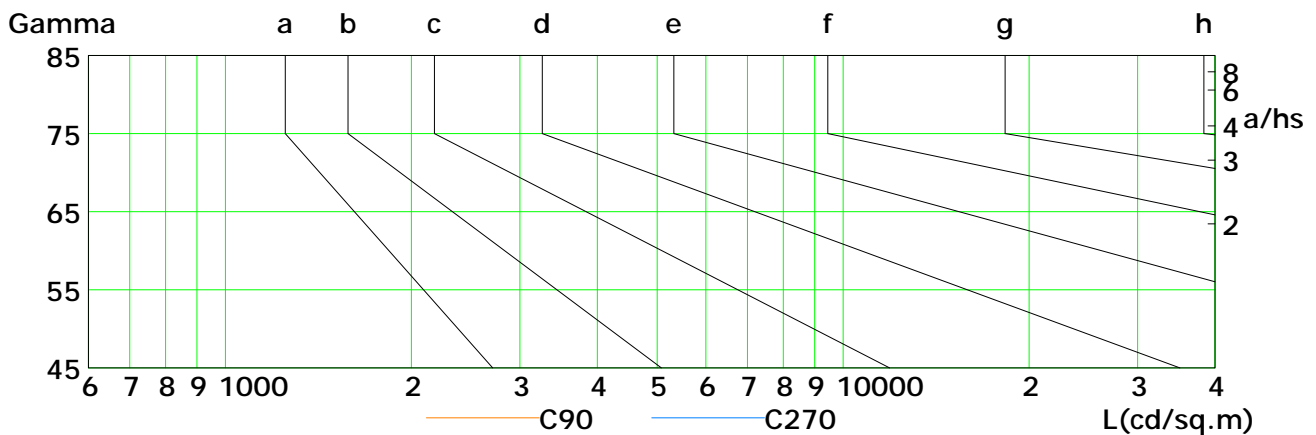
C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

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	190	109	56	54	59	59	59	67	73
C90	491	291	194	105	118	137	174	209	289
C180	209	119	59	61	59	62	70	67	77
C270	482	318	206	98	111	120	165	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

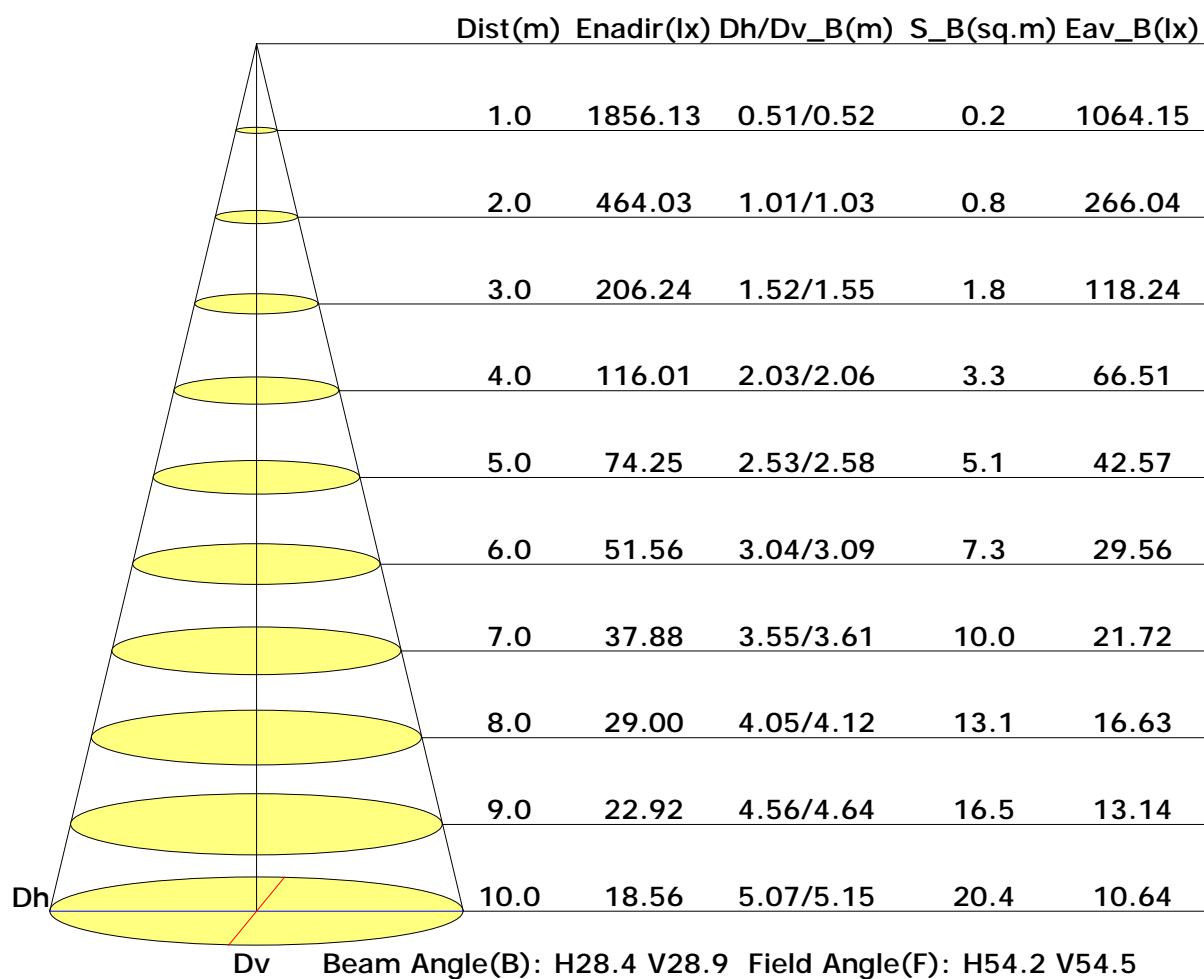
Test Device: GPM-1800B

Distance: 9.028 m

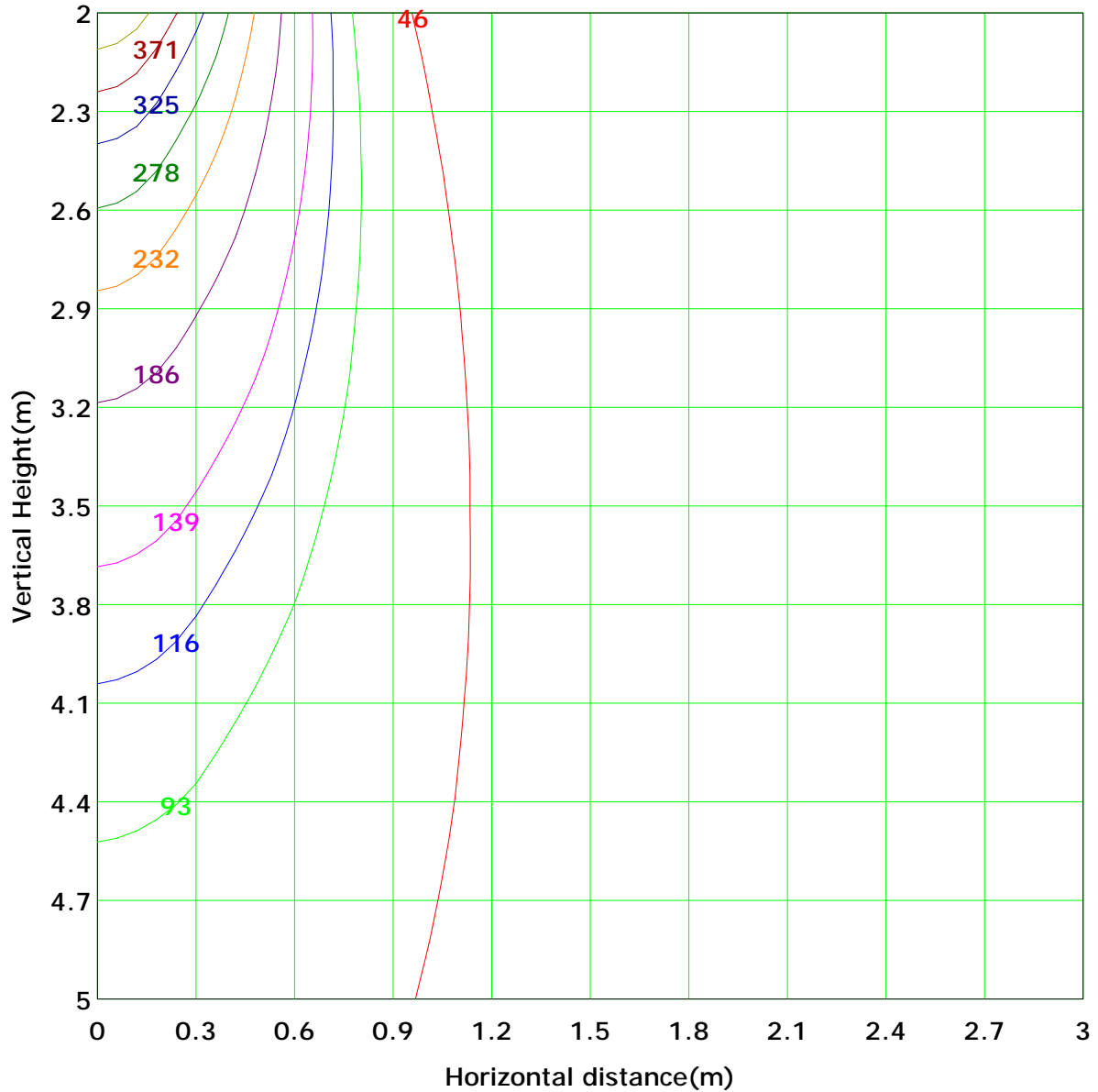
Humidity: 60%

Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 2.0m	Highest(m): 5.0m	Max Lux: 464.0 lx
(10%): 46.4 lx	(20%): 92.8 lx	
(25%): 116.0 lx	(30%): 139.2 lx	
(40%): 185.6 lx	(50%): 232.0 lx	
(60%): 278.4 lx	(70%): 324.8 lx	
(80%): 371.2 lx	(90%): 417.6 lx	

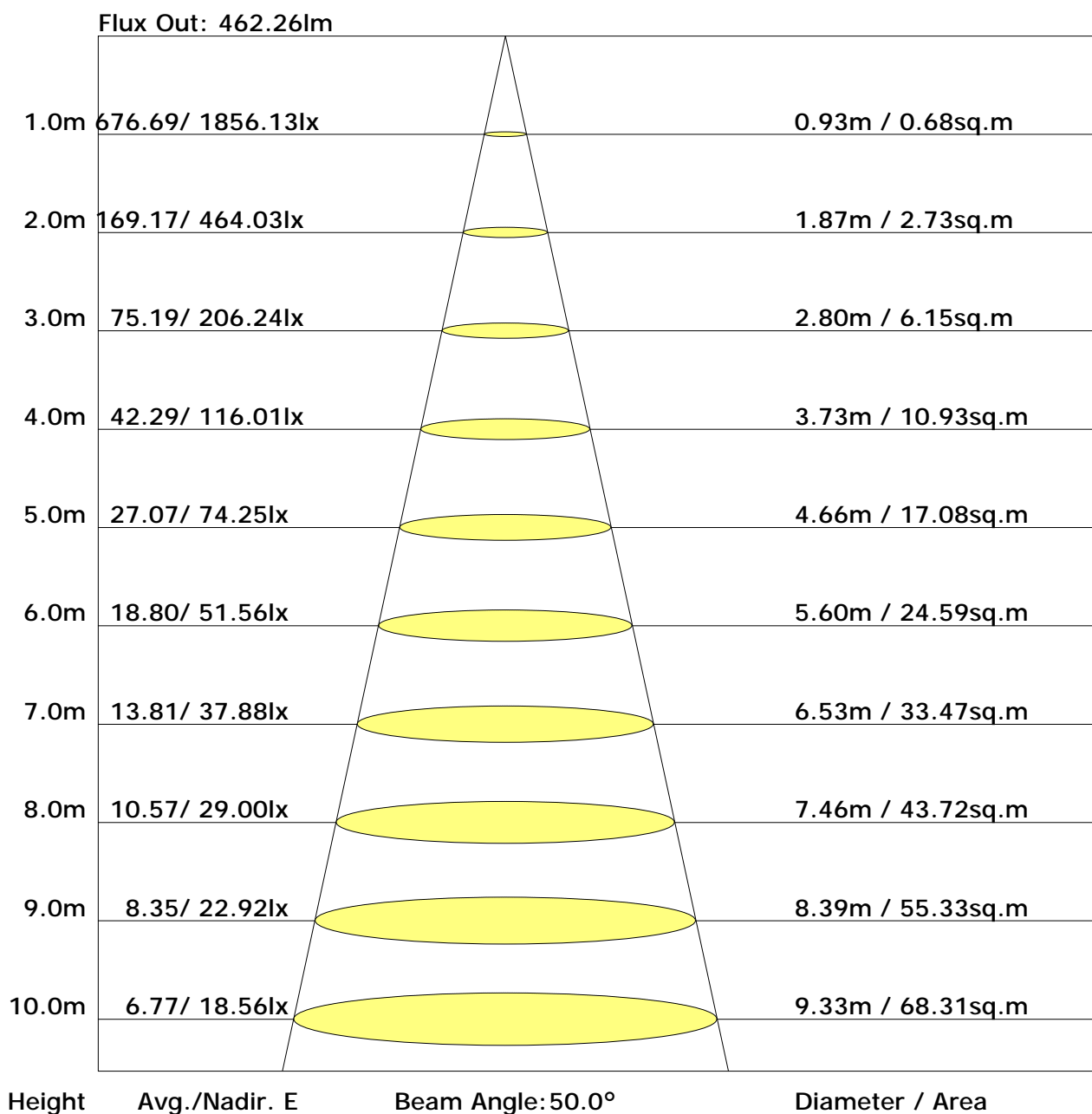
C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

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

Unit: Im

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	-9.7	-8.8	-9.3	-8.5	-8.2	-8.0	-7.1	-7.6	-6.7	-6.4
3H	-6.3	-5.5	-5.9	-5.2	-4.8	-6.6	-5.8	-6.2	-5.5	-5.1
4H	-4.7	-4.0	-4.3	-3.7	-3.3	-5.6	-4.9	-5.2	-4.5	-4.2
6H	-3.0	-2.3	-2.6	-1.9	-1.5	-4.6	-3.9	-4.2	-3.6	-3.2
8H	-2.0	-1.3	-1.5	-1.0	-0.5	-4.1	-3.5	-3.7	-3.1	-2.7
12H	-1.0	-0.4	-0.6	-0.0	0.4	-3.6	-3.0	-3.1	-2.6	-2.1
X=4H Y=2H	-9.1	-8.4	-8.7	-8.0	-7.6	-7.7	-6.9	-7.3	-6.6	-6.2
3H	-5.6	-5.0	-5.2	-4.6	-4.2	-6.0	-5.4	-5.5	-5.0	-4.6
4H	-3.9	-3.4	-3.5	-3.0	-2.5	-4.8	-4.2	-4.3	-3.8	-3.4
6H	-2.0	-1.6	-1.5	-1.1	-0.6	-3.5	-3.1	-3.0	-2.6	-2.1
8H	-0.9	-0.5	-0.4	-0.0	0.4	-2.9	-2.5	-2.4	-2.1	-1.6
12H	0.2	0.5	0.7	1.0	1.5	-2.2	-1.9	-1.8	-1.4	-0.9
X=8H Y=4H	-3.6	-3.1	-3.1	-2.7	-2.2	-4.3	-3.8	-3.8	-3.4	-2.9
6H	-1.5	-1.1	-1.0	-0.6	-0.2	-2.8	-2.5	-2.3	-1.9	-1.5
8H	-0.2	0.0	0.3	0.6	1.1	-2.0	-1.7	-1.5	-1.2	-0.7
12H	1.0	1.3	1.5	1.8	2.3	-1.2	-0.9	-0.6	-0.4	0.2
X=12H Y=4H	-3.5	-3.1	-3.0	-2.7	-2.2	-4.1	-3.8	-3.6	-3.3	-2.8
6H	-1.4	-1.1	-0.8	-0.6	-0.0	-2.6	-2.3	-2.0	-1.8	-1.2
8H	-0.1	0.2	0.5	0.7	1.3	-1.7	-1.4	-1.2	-0.9	-0.4

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 (°):0.0-90.0:1.0
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	0.97	1.01	1.04	1.06	1.09	1.10	1.12	1.13	1.14
	0.30		0.94	0.98	1.01	1.03	1.06	1.08	1.09	1.11	1.13
	0.20		0.91	0.95	0.98	1.01	1.04	1.06	1.08	1.10	1.11
0.50	0.50	0.20	0.96	1.00	1.02	1.04	1.06	1.07	1.08	1.09	1.10
	0.30		0.93	0.97	0.99	1.01	1.04	1.05	1.06	1.08	1.09
	0.20		0.91	0.95	0.97	0.99	1.02	1.04	1.05	1.07	1.08
0.30	0.50	0.20	0.95	0.98	1.00	1.01	1.03	1.04	1.05	1.06	1.07
	0.30		0.92	0.96	0.98	0.99	1.01	1.03	1.04	1.05	1.06
	0.20		0.90	0.94	0.96	0.98	1.00	1.01	1.03	1.04	1.05
0.00	0.00	0.00	0.89	0.92	0.94	0.95	0.97	0.98	0.99	1.00	1.00
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	0.42	0.35	0.30	0.26	0.21	0.17	0.15	0.12	0.09
	0.30		0.35	0.30	0.26	0.23	0.19	0.16	0.14	0.11	0.09
	0.20		0.30	0.26	0.23	0.20	0.17	0.15	0.13	0.10	0.09
0.50	0.50	0.20	0.40	0.32	0.27	0.24	0.19	0.20	0.13	0.10	0.08
	0.30		0.34	0.28	0.24	0.21	0.17	0.14	0.12	0.10	0.08
	0.20		0.29	0.25	0.22	0.19	0.16	0.13	0.12	0.09	0.08
0.30	0.50	0.20	0.38	0.30	0.25	0.22	0.17	0.14	0.12	0.09	0.08
	0.30		0.32	0.27	0.23	0.20	0.16	0.13	0.11	0.09	0.07
	0.20		0.28	0.24	0.21	0.18	0.15	0.12	0.11	0.08	0.07
0.00	0.00	0.00	0.13	0.10	0.08	0.07	0.05	0.04	0.04	0.03	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											

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	0.14	0.15	0.17	0.18	0.19	0.20
	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	0.11	0.13	0.14	0.15	0.17	0.18	0.19	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		0.07	0.09	0.10	0.12	0.13	0.15	0.16	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	0.15	0.16	0.17	0.18	0.18
	0.20		0.07	0.08	0.10	0.11	0.13	0.15	0.15	0.17	0.18
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											