Report No.:

Test Time: 2017-11-14 15:04

Luminaire Property

Luminaire Manufacturer:

Luminaire Description: SW-LS2005-30W-600

Number of Lamps: 1

Lumens per Lamp: 3000

Luminous Length (mm): 150

Luminous Width (mm): 75

Luminous Height (mm): 70

Voltage: 227.0 V

Current: 0.141 A

Power: 30.70 W

Power Factor: 0.955

Photometric Results

CIE Class: Direct

Total Rated Lamp Lumens: 3000.0 lm

Measurement Flux: 2566.3 lm

Efficiency: 85.54%

Downward Ratio: 85.54%

Upward Ratio: 0.00%

Field Angle: H110.2 V77.4

Beam Angle: H69.7 V51.5

Luminaire Efficacy Rating (LER): 84

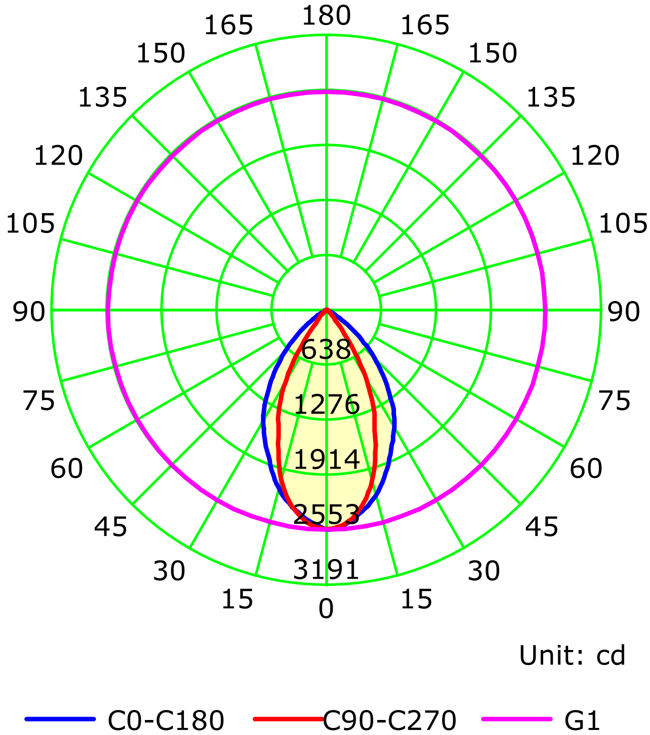
Central Intensity: 2548.99 cd

Max. Intensity: 2553.13 cd

Pos of Max. Intensity: H0 V1

Picture Of Luminaire

Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 90.0

Gamma Plane (°):0.0-90.0:1.0

Test Lab:

Test Device: GPM-1600

Test Type: TYPE C

Distance: 8.092 m

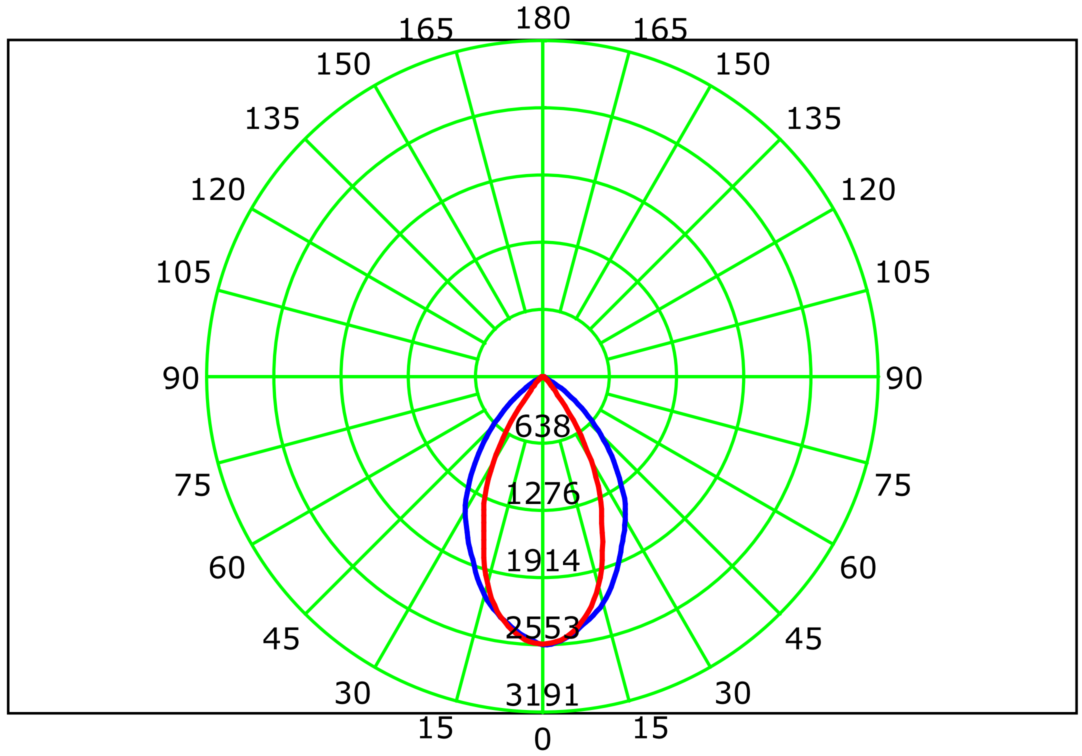
Temperature:

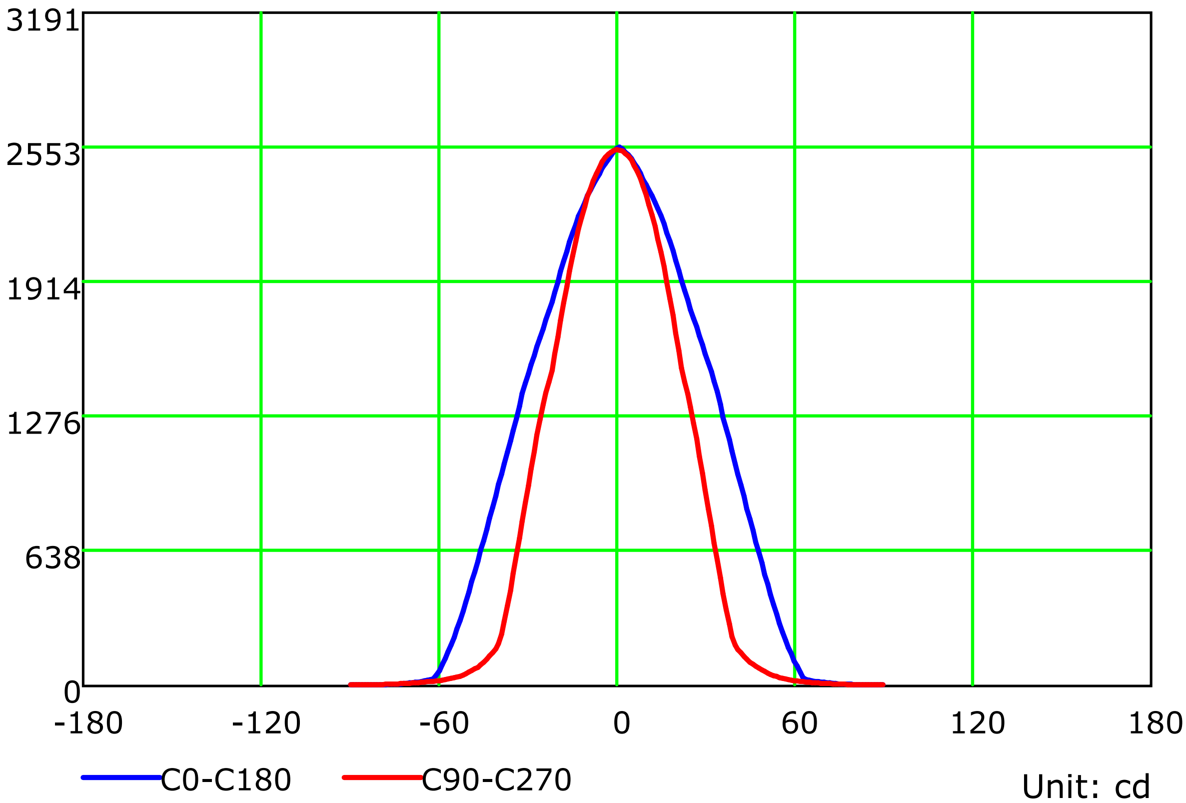
Humidity:

Operator: Eng. KE

Inspector:

Luminous Intensity Distribution Curve





Unit: cd

C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator: Eng. KE

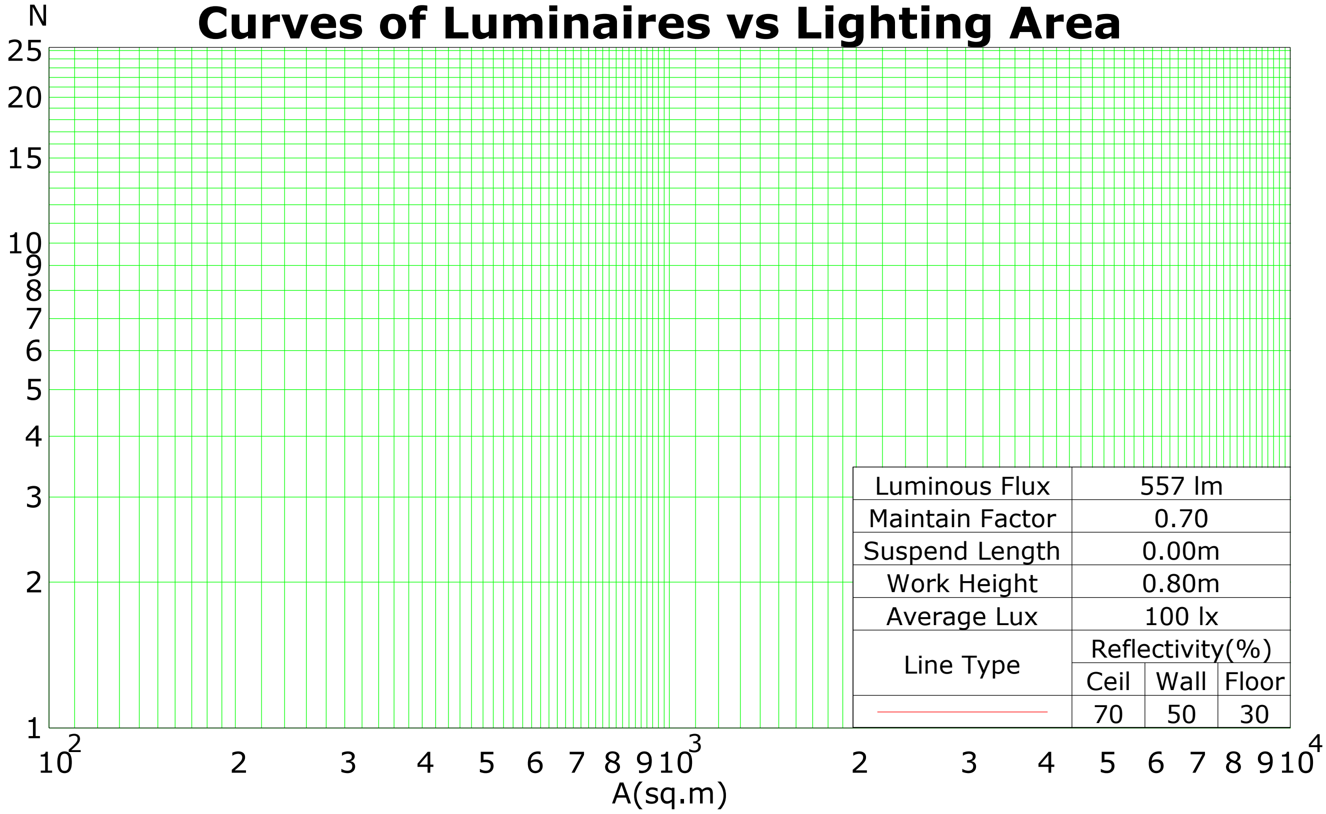
Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600
Distance: 8.092 m
Humidity:
Inspector:

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	102	102	102	102	99	99	99	99	95	95	95	91	91	91	87	87	87	86
1	97	94	92	90	94	92	90	88	89	87	85	85	84	83	83	81	80	79
2	91	87	83	80	89	85	82	79	82	79	77	80	77	75	77	75	74	72
3	86	80	75	71	84	79	74	71	76	73	70	74	71	69	72	70	67	66
4	81	74	69	65	79	73	68	64	71	67	63	69	66	63	67	64	62	60
5	76	68	63	59	75	68	62	59	66	61	58	64	61	57	63	60	57	56
6	72	64	58	54	71	63	58	54	62	57	53	60	56	53	59	55	53	51
7	68	59	54	50	67	59	53	49	58	53	49	56	52	49	55	52	49	47
8	64	55	50	46	63	55	50	46	54	49	46	53	49	45	52	48	45	44
9	61	52	46	43	60	51	46	43	51	46	42	50	45	42	49	45	42	41
10	58	49	43	40	57	48	43	40	48	43	40	47	43	40	46	42	39	38

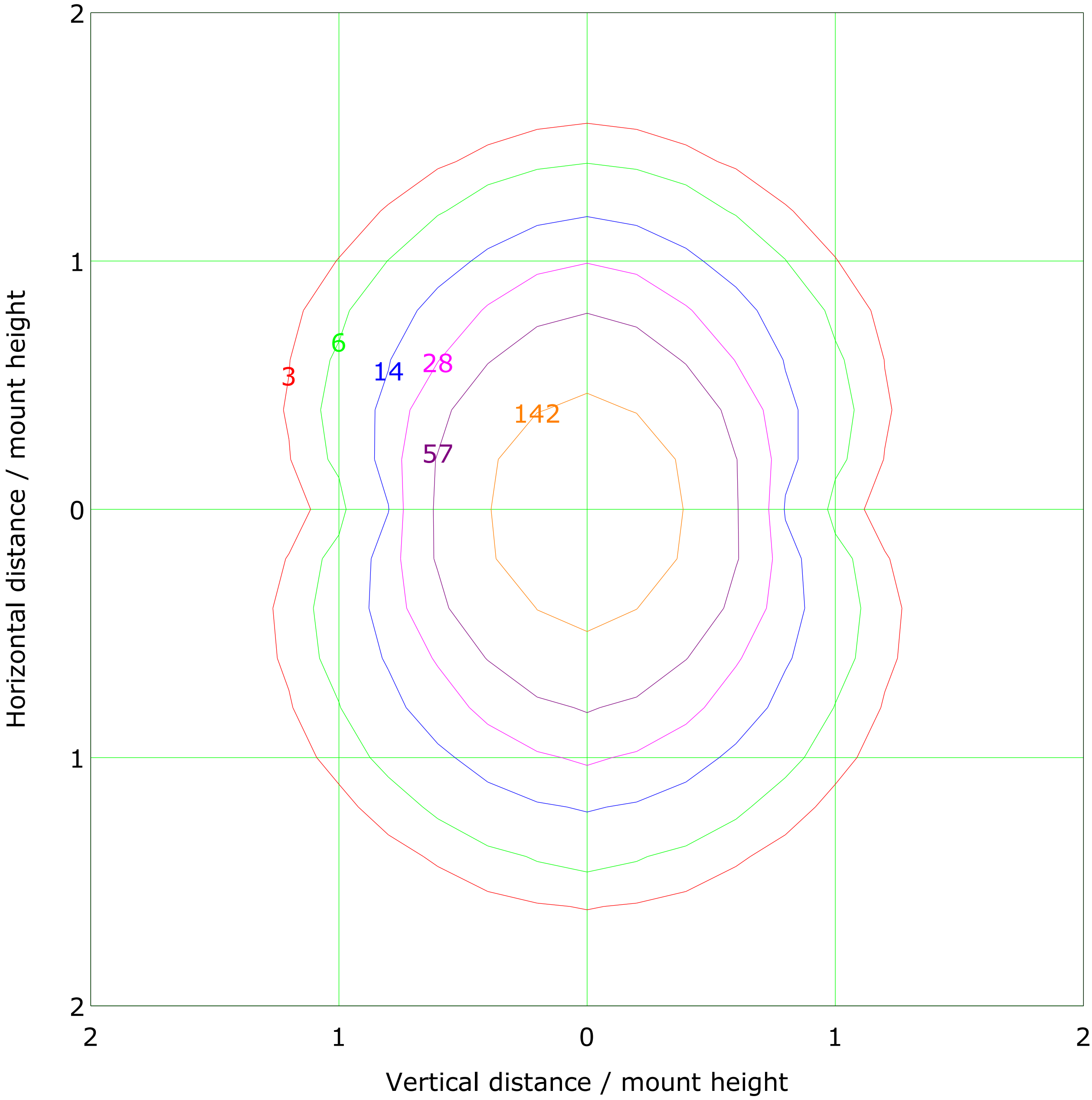
Spacing Criteria (0-180): 0.95
Spacing Criteria (90-270): 0.77
Spacing Criteria (Diagonal): 0.90

Curves of Luminaires vs Lighting Area



C Plane (°):0.0-360.0: 90.0
Gamma Plane (°):0.0-90.0:1.0
Test Lab:
Test Device: GPM-1600
Test Type: TYPE C
Distance: 8.092 m
Temperature:
Humidity:
Operator: Eng. KE
Inspector:

IsoLux Plot



Mounting Height: 3m Max Lux(100%): 284 lx

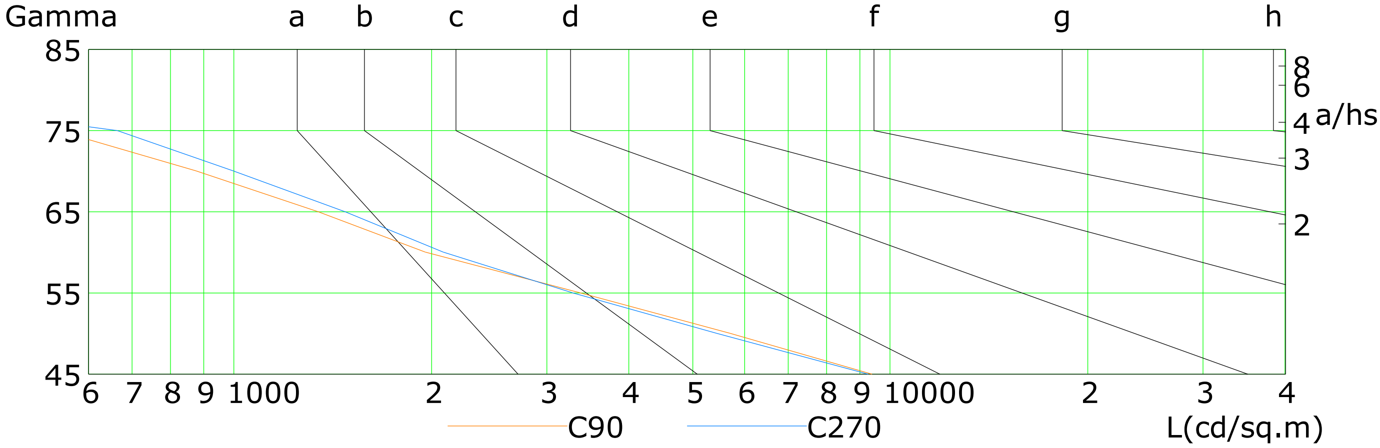
(1%): 3 lx	(2%): 6 lx
(5%): 14 lx	(10%): 28 lx
(20%): 57 lx	(50%): 142 lx
(100%): 284 lx	

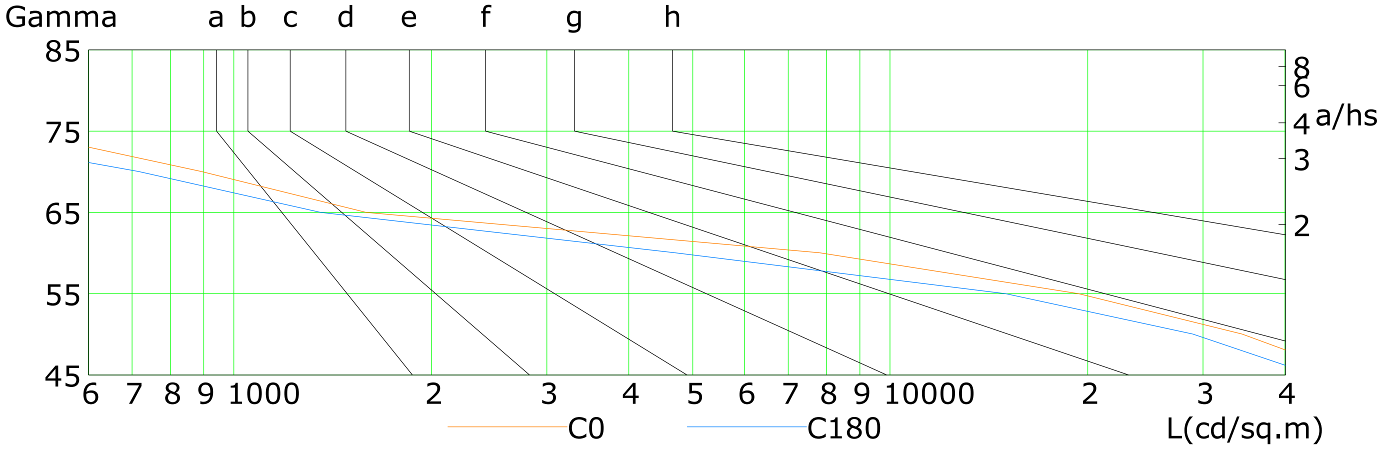
C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator: Eng. KE

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600
Distance: 8.092 m
Humidity:
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

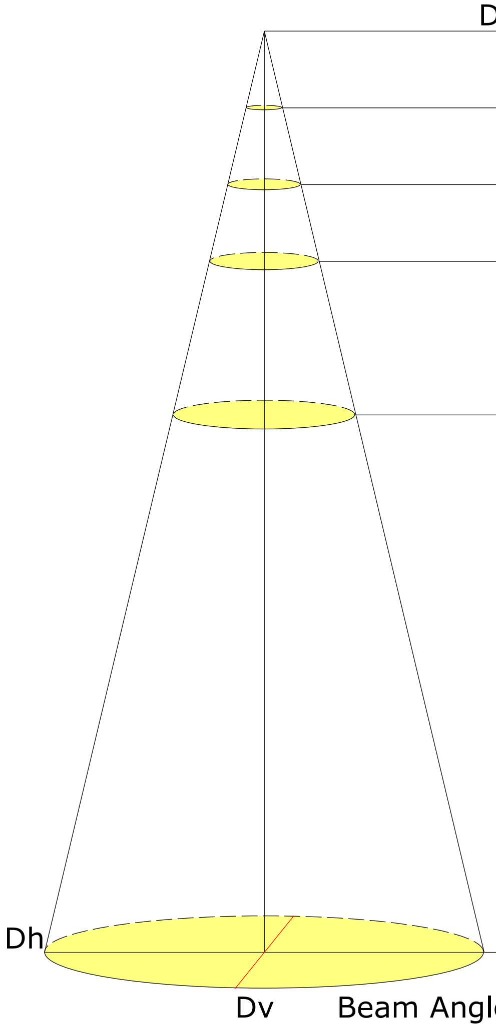




L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	51275	34390	19402	7812	1593	892	465	235	101
C90	9376	5699	3376	1959	1347	877	542	135	47
C180	44487	28899	15007	4704	1357	716	339	141	25
C270	9252	5434	3286	2083	1478	998	664	243	93

C Plane (°):0.0-360.0: 90.0	Gamma Plane (°):0.0-90.0:1.0
Test Lab:	Test Device: GPM-1600
Test Type: TYPE C	Distance: 8.092 m
Temperature:	Humidity:
Operator: Eng. KE	Inspector:

Illuminance at a Distance



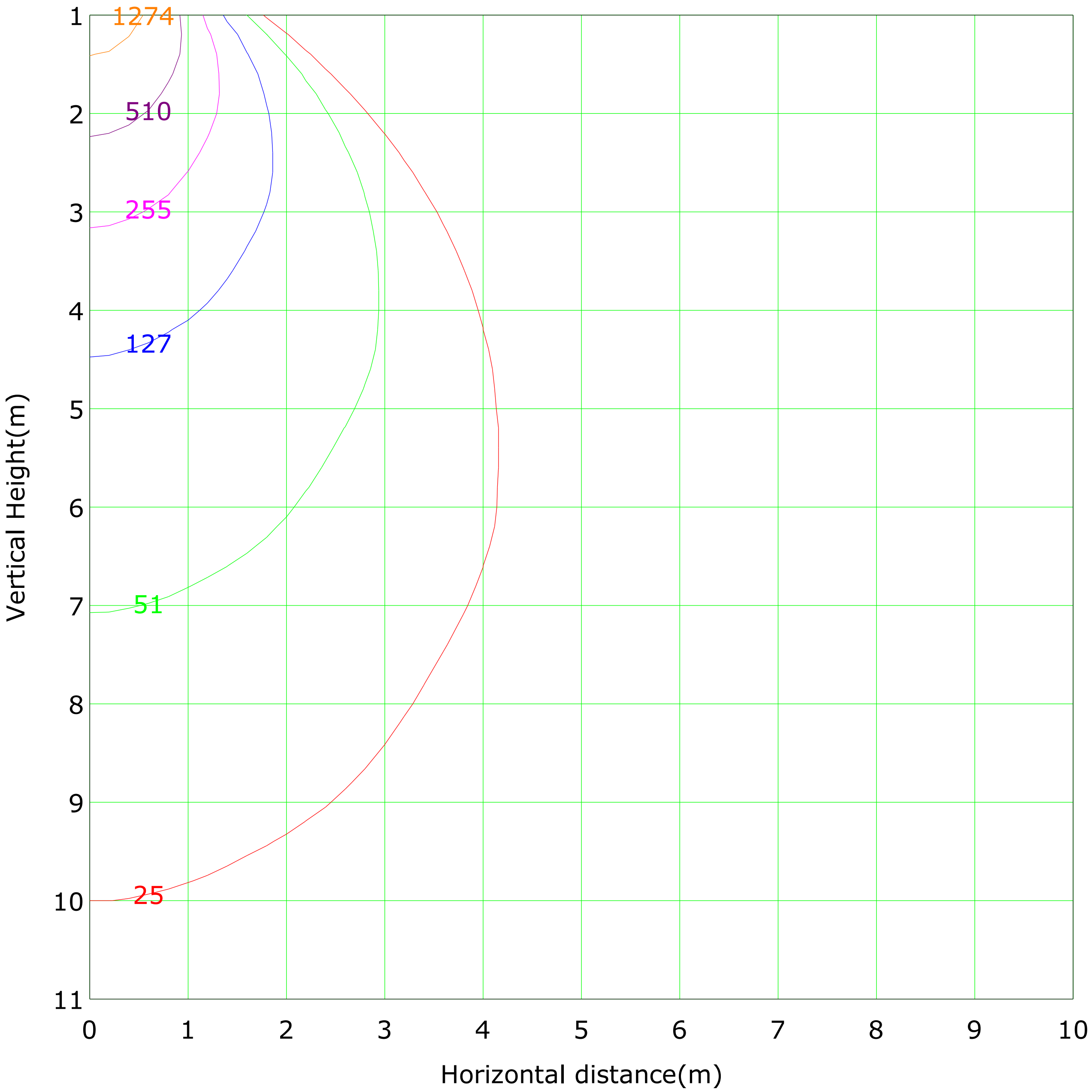
Dist(m)	Enadir(lx)	Dh/Dv_B(m)	S_B(sq.m)	Eav_B(lx)
		Dh/Dv_F(m)	S_F(sq.m)	Eav_F(lx)
1.0	2548.99	1.39/0.96	1.1	924.88
		2.86/1.60	3.9	123.18
2.0	637.25	2.78/1.93	4.4	231.22
		5.73/3.20	15.7	30.80
3.0	283.22	4.18/2.89	9.8	102.76
		8.59/4.80	35.3	13.69
5.0	101.96	6.96/4.82	27.3	37.00
		14.32/8.01	98.0	4.93
12.0	17.70	16.71/11.57	157.2	6.42
		34.38/19.22	564.6	0.86

Beam Angle(B): H69.7 V51.5 Field Angle(F): H110.2 V77.4

C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator: Eng. KE

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600
Distance: 8.092 m
Humidity:
Inspector:

Vertical IsoLux Plot



Lowest(m): 1m Highest(m): 11 Max Lux: 2549

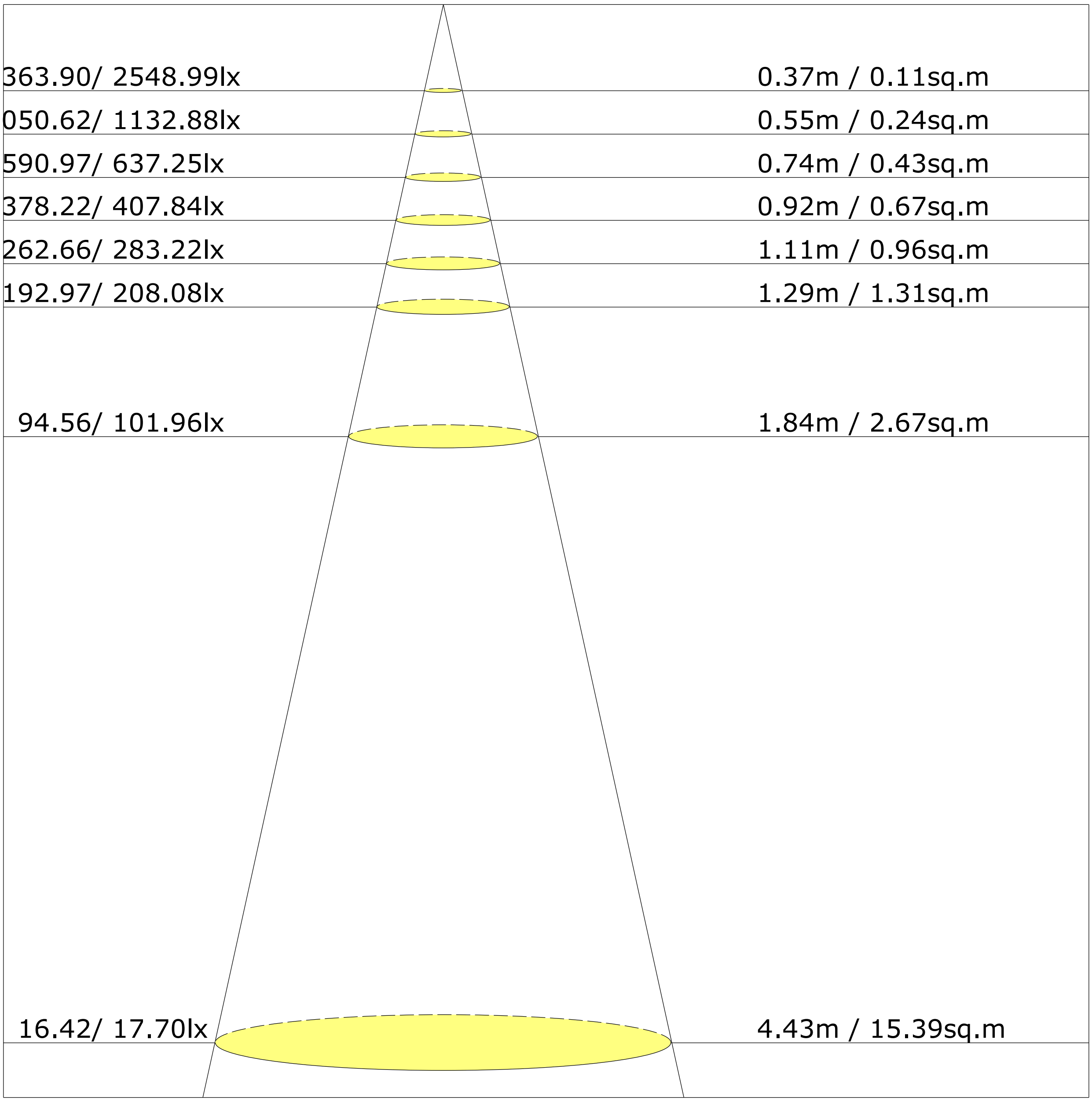
(1%): 25 lx
(2%): 51 lx
(5%): 127 lx
(10%): 255 lx
(20%): 510 lx
(50%): 1274 lx
(100%): 2549 lx

C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator: Eng. KE

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600
Distance: 8.092 m
Humidity:
Inspector:

The average illuminance effective figure

Flux Out: 252.62lm



Height	Avg./Nadir. E	Diameter / Area
1.0m	2363.90/ 2548.99lx	0.37m / 0.11sq.m
1.5m	1050.62/ 1132.88lx	0.55m / 0.24sq.m
2.0m	590.97/ 637.25lx	0.74m / 0.43sq.m
2.5m	378.22/ 407.84lx	0.92m / 0.67sq.m
3.0m	262.66/ 283.22lx	1.11m / 0.96sq.m
3.5m	192.97/ 208.08lx	1.29m / 1.31sq.m
5.0m	94.56/ 101.96lx	1.84m / 2.67sq.m
12.0m	16.42/ 17.70lx	4.43m / 15.39sq.m

Beam Angle:20.9°

C Plane (°):0.0-360.0: 90.0	Gamma Plane (°):0.0-90.0:1.0
Test Lab:	Test Device: GPM-1600
Test Type: TYPE C	Distance: 8.092 m
Temperature:	Humidity:
Operator: Eng. KE	Inspector:

Zonal Lumen

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
0.0-1.0	2543.9	2.4	2.4	0.08	0.08
1.0-2.0	2537.4	7.3	9.7	0.24	0.32
2.0-3.0	2525.6	12.1	21.8	0.40	0.73
3.0-4.0	2510.9	16.8	38.6	0.56	1.29
4.0-5.0	2492.8	21.4	60.1	0.71	2.00
5.0-6.0	2470.1	26.0	86.0	0.87	2.87
6.0-7.0	2444.4	30.3	116.4	1.01	3.88
7.0-8.0	2416.4	34.6	150.9	1.15	5.03
8.0-9.0	2385.2	38.7	189.6	1.29	6.32
9.0-10.0	2352.6	42.6	232.2	1.42	7.74
10.0-11.0	2317.5	46.3	278.5	1.54	9.28
11.0-12.0	2278.2	49.8	328.3	1.66	10.94
12.0-13.0	2236.5	53.1	381.4	1.77	12.71
13.0-14.0	2191.8	56.1	437.5	1.87	14.58
14.0-15.0	2143.1	58.8	496.3	1.96	16.54
15.0-16.0	2089.9	61.2	557.6	2.04	18.59
16.0-17.0	2032.8	63.3	620.9	2.11	20.70
17.0-18.0	1973.2	65.1	686.0	2.17	22.87
18.0-19.0	1910.7	66.5	752.5	2.22	25.08
19.0-20.0	1846.0	67.6	820.0	2.25	27.33
20.0-21.0	1780.9	68.4	888.4	2.28	29.61
21.0-22.0	1717.0	69.0	957.4	2.30	31.91
22.0-23.0	1658.7	69.6	1027.0	2.32	34.23
23.0-24.0	1607.4	70.3	1097.3	2.34	36.58
24.0-25.0	1557.6	70.8	1168.2	2.36	38.94
25.0-26.0	1502.6	70.9	1239.1	2.36	41.30
26.0-27.0	1444.3	70.7	1309.8	2.36	43.66
27.0-28.0	1384.7	70.1	1379.9	2.34	46.00
28.0-29.0	1322.8	69.2	1449.1	2.31	48.30
29.0-30.0	1261.3	68.1	1517.2	2.27	50.57
30.0-31.0	1198.6	66.7	1583.9	2.22	52.80
31.0-32.0	1133.3	64.9	1648.9	2.16	54.96
32.0-33.0	1067.5	62.9	1711.8	2.10	57.06
33.0-34.0	1000.3	60.5	1772.3	2.02	59.08
34.0-35.0	930.9	57.8	1830.1	1.93	61.00
35.0-36.0	861.7	54.9	1885.0	1.83	62.83

Zonal Lumen (Continue 1)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
36.0-37.0	795.7	51.9	1936.9	1.73	64.56
37.0-38.0	732.7	48.9	1985.8	1.63	66.19
38.0-39.0	673.6	46.0	2031.8	1.53	67.73
39.0-40.0	621.4	43.3	2075.1	1.44	69.17
40.0-41.0	578.5	41.2	2116.3	1.37	70.54
41.0-42.0	542.0	39.4	2155.7	1.31	71.86
42.0-43.0	507.5	37.6	2193.3	1.25	73.11
43.0-44.0	473.0	35.7	2229.0	1.19	74.30
44.0-45.0	439.1	33.7	2262.8	1.12	75.43
45.0-46.0	407.3	31.9	2294.6	1.06	76.49
46.0-47.0	376.5	29.9	2324.6	1.00	77.49
47.0-48.0	345.9	28.0	2352.5	0.93	78.42
48.0-49.0	316.7	26.0	2378.6	0.87	79.29
49.0-50.0	287.7	24.0	2402.5	0.80	80.08
50.0-51.0	259.7	22.0	2424.5	0.73	80.82
51.0-52.0	233.0	20.0	2444.5	0.67	81.48
52.0-53.0	206.8	18.0	2462.5	0.60	82.08
53.0-54.0	182.1	16.1	2478.6	0.54	82.62
54.0-55.0	158.9	14.2	2492.7	0.47	83.09
55.0-56.0	137.1	12.4	2505.1	0.41	83.50
56.0-57.0	116.6	10.7	2515.8	0.36	83.86
57.0-58.0	97.8	9.0	2524.8	0.30	84.16
58.0-59.0	80.5	7.5	2532.4	0.25	84.41
59.0-60.0	64.1	6.1	2538.4	0.20	84.61
60.0-61.0	49.8	4.7	2543.2	0.16	84.77
61.0-62.0	37.0	3.6	2546.8	0.12	84.89
62.0-63.0	27.0	2.6	2549.4	0.09	84.98
63.0-64.0	21.2	2.1	2551.5	0.07	85.05
64.0-65.0	18.3	1.8	2553.3	0.06	85.11
65.0-66.0	16.3	1.6	2554.9	0.05	85.16
66.0-67.0	14.4	1.5	2556.3	0.05	85.21
67.0-68.0	12.8	1.3	2557.6	0.04	85.25
68.0-69.0	11.4	1.2	2558.8	0.04	85.29
69.0-70.0	10.2	1.0	2559.9	0.03	85.33
70.0-71.0	9.1	0.9	2560.8	0.03	85.36
71.0-72.0	8.1	0.8	2561.6	0.03	85.39

Zonal Lumen (Continue 2)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
72.0-73.0	7.1	0.7	2562.4	0.02	85.41
73.0-74.0	6.2	0.6	2563.0	0.02	85.43
74.0-75.0	5.4	0.6	2563.6	0.02	85.45
75.0-76.0	4.7	0.5	2564.1	0.02	85.47
76.0-77.0	4.0	0.4	2564.5	0.01	85.48
77.0-78.0	3.5	0.4	2564.9	0.01	85.50
78.0-79.0	2.9	0.3	2565.2	0.01	85.51
79.0-80.0	2.2	0.2	2565.4	0.01	85.51
80.0-81.0	1.6	0.2	2565.6	0.01	85.52
81.0-82.0	1.3	0.1	2565.8	0.00	85.53
82.0-83.0	1.0	0.1	2565.9	0.00	85.53
83.0-84.0	0.8	0.1	2566.0	0.00	85.53
84.0-85.0	0.7	0.1	2566.0	0.00	85.53
85.0-86.0	0.5	0.1	2566.1	0.00	85.54
86.0-87.0	0.4	0.0	2566.1	0.00	85.54
87.0-88.0	0.4	0.0	2566.2	0.00	85.54
88.0-89.0	0.4	0.0	2566.2	0.00	85.54
89.0-90.0	0.3	0.0	2566.3	0.00	85.54

Candlepower Table

Unit: cd

G\C	C0.0	C90.0	C180.0	C270.0	C360.0					
G0.0	2549.0	2541.9	2549.0	2541.9	2549.0					
G1.0	2553.1	2540.6	2535.7	2540.1	2553.1					
G2.0	2545.8	2535.5	2516.6	2531.9	2545.8					
G3.0	2531.7	2524.9	2497.1	2521.2	2531.7					
G4.0	2517.1	2512.8	2477.1	2505.3	2517.1					
G5.0	2499.5	2492.6	2454.7	2483.4	2499.5					
G6.0	2479.6	2467.0	2426.8	2457.0	2479.6					
G7.0	2458.0	2438.6	2401.3	2426.7	2458.0					
G8.0	2430.4	2405.6	2375.3	2395.0	2430.4					
G9.0	2400.2	2368.4	2350.0	2356.5	2400.2					
G10.0	2375.7	2327.0	2322.9	2320.1	2375.7					
G11.0	2350.2	2280.0	2290.8	2273.1	2350.2					
G12.0	2322.2	2231.3	2256.1	2221.7	2322.2					
G13.0	2291.4	2176.8	2225.8	2166.4	2291.4					
G14.0	2261.9	2117.6	2187.7	2106.8	2261.9					
G15.0	2229.5	2056.1	2147.1	2038.1	2229.5					
G16.0	2190.5	1986.0	2105.4	1966.2	2190.5					
G17.0	2148.6	1913.5	2059.1	1893.1	2148.6					
G18.0	2108.1	1835.2	2013.6	1814.7	2108.1					
G19.0	2063.2	1755.0	1965.9	1730.2	2063.2					
G20.0	2017.2	1671.2	1914.2	1650.8	2017.2					
G21.0	1969.4	1589.1	1863.3	1572.1	1969.4					
G22.0	1922.8	1505.4	1818.6	1495.4	1922.8					
G23.0	1874.1	1440.1	1775.2	1437.9	1874.1					
G24.0	1828.5	1382.1	1734.3	1387.4	1828.5					
G25.0	1781.8	1321.6	1692.3	1332.6	1781.8					
G26.0	1740.8	1243.0	1648.9	1260.1	1740.8					
G27.0	1700.2	1167.9	1605.6	1188.1	1700.2					
G28.0	1658.5	1086.9	1563.1	1107.4	1658.5					
G29.0	1616.1	1004.1	1520.6	1025.9	1616.1					
G30.0	1573.5	925.0	1478.4	947.1	1573.5					
G31.0	1529.6	836.9	1432.2	865.7	1529.6					
G32.0	1487.2	754.1	1383.2	777.5	1487.2					
G33.0	1443.3	672.2	1325.0	697.5	1443.3					
G34.0	1393.6	593.9	1262.1	614.6	1393.6					
G35.0	1333.1	510.2	1209.2	530.3	1333.1					
G36.0	1268.7	433.0	1159.9	449.3	1268.7					

C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator: Eng. KE

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600
Distance: 8.092 m
Humidity:
Inspector:

Candlepower Table (Continue 1)

Unit: cd

G\C	C0.0	C90.0	C180.0	C270.0	C360.0					
G37.0	1215.8	357.3	1105.9	375.3	1215.8					
G38.0	1164.1	289.6	1050.4	303.1	1164.1					
G39.0	1109.4	228.7	1002.4	240.7	1109.4					
G40.0	1051.0	190.2	953.0	195.9	1051.0					
G41.0	1001.5	167.9	897.7	170.9	1001.5					
G42.0	949.1	152.1	842.5	154.6	949.1					
G43.0	895.4	136.2	791.8	138.3	895.4					
G44.0	837.2	122.2	740.9	122.1	837.2					
G45.0	788.6	109.4	684.2	107.9	788.6					
G46.0	735.3	99.0	638.6	95.3	735.3					
G47.0	680.2	89.1	589.5	84.7	680.2					
G48.0	630.6	80.4	536.9	76.2	630.6					
G49.0	579.8	71.4	490.1	68.5	579.8					
G50.0	525.3	64.1	441.4	61.2	525.3					
G51.0	479.3	56.8	394.7	54.4	479.3					
G52.0	428.9	50.3	351.7	47.8	428.9					
G53.0	382.5	44.8	306.5	42.0	382.5					
G54.0	336.9	39.8	266.7	38.0	336.9					
G55.0	292.1	36.3	225.9	35.3	292.1					
G56.0	249.7	32.9	191.3	33.2	249.7					
G57.0	211.5	29.2	155.2	30.1	211.5					
G58.0	178.3	25.6	125.6	27.0	178.3					
G59.0	146.7	22.4	94.4	24.1	146.7					
G60.0	115.0	19.9	69.2	21.2	115.0					
G61.0	88.8	18.3	46.5	19.2	88.8					
G62.0	60.0	16.9	28.9	17.7	60.0					
G63.0	36.1	15.4	24.5	16.6	36.1					
G64.0	25.7	14.3	21.9	15.5	25.7					
G65.0	22.7	12.8	19.4	14.1	22.7					
G66.0	20.1	11.4	17.1	12.6	20.1					
G67.0	17.8	10.1	15.0	11.3	17.8					
G68.0	15.8	9.1	13.0	10.2	15.8					
G69.0	14.0	8.4	11.3	9.4	14.0					
G70.0	12.2	7.7	9.8	8.8	12.2					
G71.0	10.7	7.1	8.4	8.1	10.7					
G72.0	9.3	6.4	7.0	7.5	9.3					
G73.0	8.0	5.7	6.0	6.7	8.0					

C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator: Eng. KE

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600
Distance: 8.092 m
Humidity:
Inspector:

Candlepower Table (Continue 2)

Unit: cd

G\C	C0.0	C90.0	C180.0	C270.0	C360.0					
G74.0	6.8	4.9	5.2	6.1	6.8					
G75.0	6.1	4.3	4.4	5.3	6.1					
G76.0	5.2	3.8	3.7	4.7	5.2					
G77.0	4.4	3.3	3.1	4.2	4.4					
G78.0	3.8	2.7	2.6	3.7	3.8					
G79.0	3.3	1.7	2.2	3.0	3.3					
G80.0	2.9	1.0	1.7	1.7	2.9					
G81.0	2.4	0.6	1.4	1.3	2.4					
G82.0	2.0	0.4	1.3	0.9	2.0					
G83.0	1.8	0.3	1.1	0.6	1.8					
G84.0	1.5	0.3	0.6	0.6	1.5					
G85.0	1.2	0.3	0.3	0.6	1.2					
G86.0	0.7	0.3	0.3	0.5	0.7					
G87.0	0.6	0.3	0.3	0.5	0.6					
G88.0	0.6	0.3	0.3	0.4	0.6					
G89.0	0.5	0.3	0.3	0.4	0.5					
G90.0	0.4	0.3	0.3	0.3	0.4					

C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator: Eng. KE

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600
Distance: 8.092 m
Humidity:
Inspector: