

Report No.: URB014-0425002

Test Time: 2024-05-14 16:57

Luminaire Property

Luminaire Manufacturer:

Luminaire Description: VLT480-32W-3000K-Ra90-50D B

Lamp Description: V13-C

Lumens per Lamp: 3589

Luminous Width (mm): -58

Voltage: 219.9 V

Power: 31.33 W

Number of Lamps: 1

Luminous Length (mm): -58

Luminous Height (mm): 0

Current: 0.153 A

Power Factor: 0.992

Photometric Results

CIE Class: Direct

Measurement Flux: 3106.5 lm

Downward Ratio: 86.56%

Horizontal Diffuse Angle(50%): H49.6

Vertical Diffuse Angle(50%): V49.7

Luminaire Efficacy Rating (LER): 99.20

Max. Intensity: 5043.65 cd

S/MH(C0/C180): 0.82

Total Rated Lamp Lumens: 3589.0 lm

Efficiency: 86.56%

Upward Ratio: 0.00%

Central Intensity: 5042.06 cd

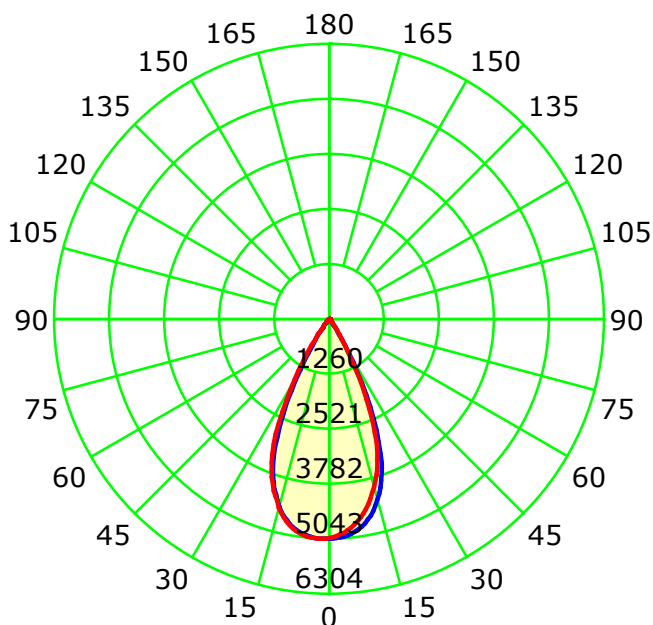
Pos of Max. Intensity: H180 V1

S/MH(C90/C270): 0.81

Picture Of Luminaire



Luminous Intensity Distribution Curve



Unit: cd

Average Diffuse Angle(50%): 49.6°

— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 90.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

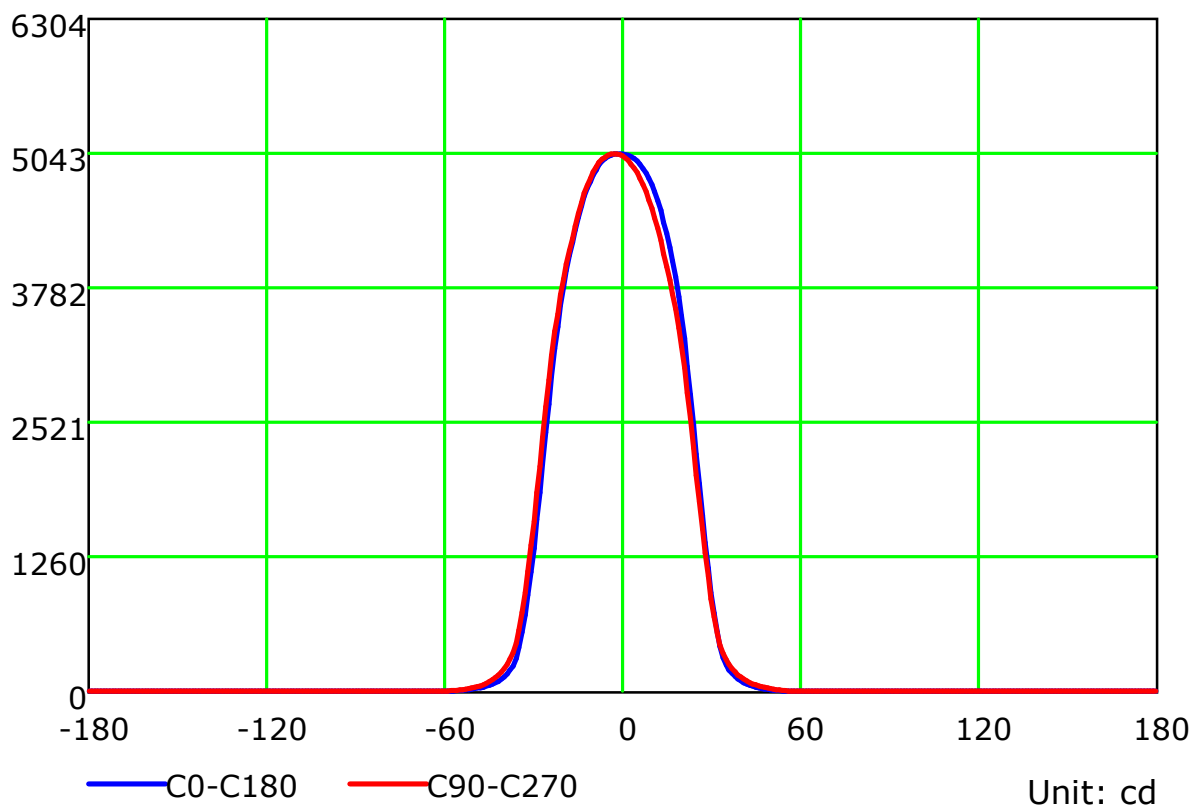
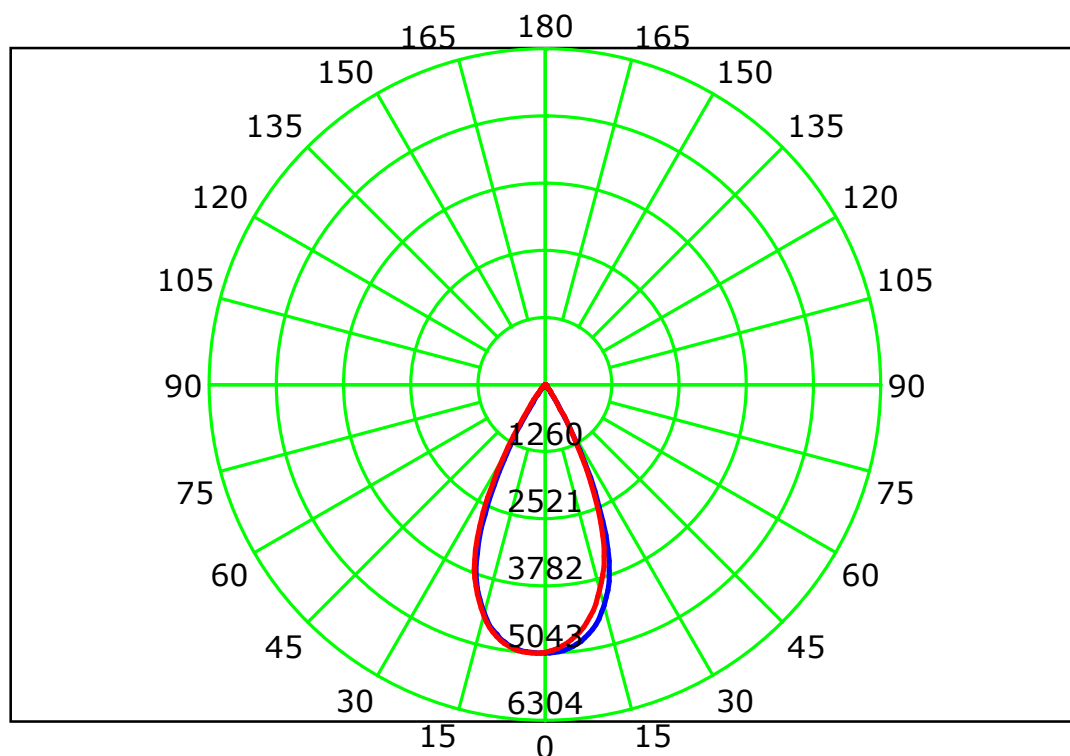
Test Device: GPM-1600L

Distance: 9.860 m

Humidity:

Inspector:

Luminous Intensity Distribution Curve



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

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1600L
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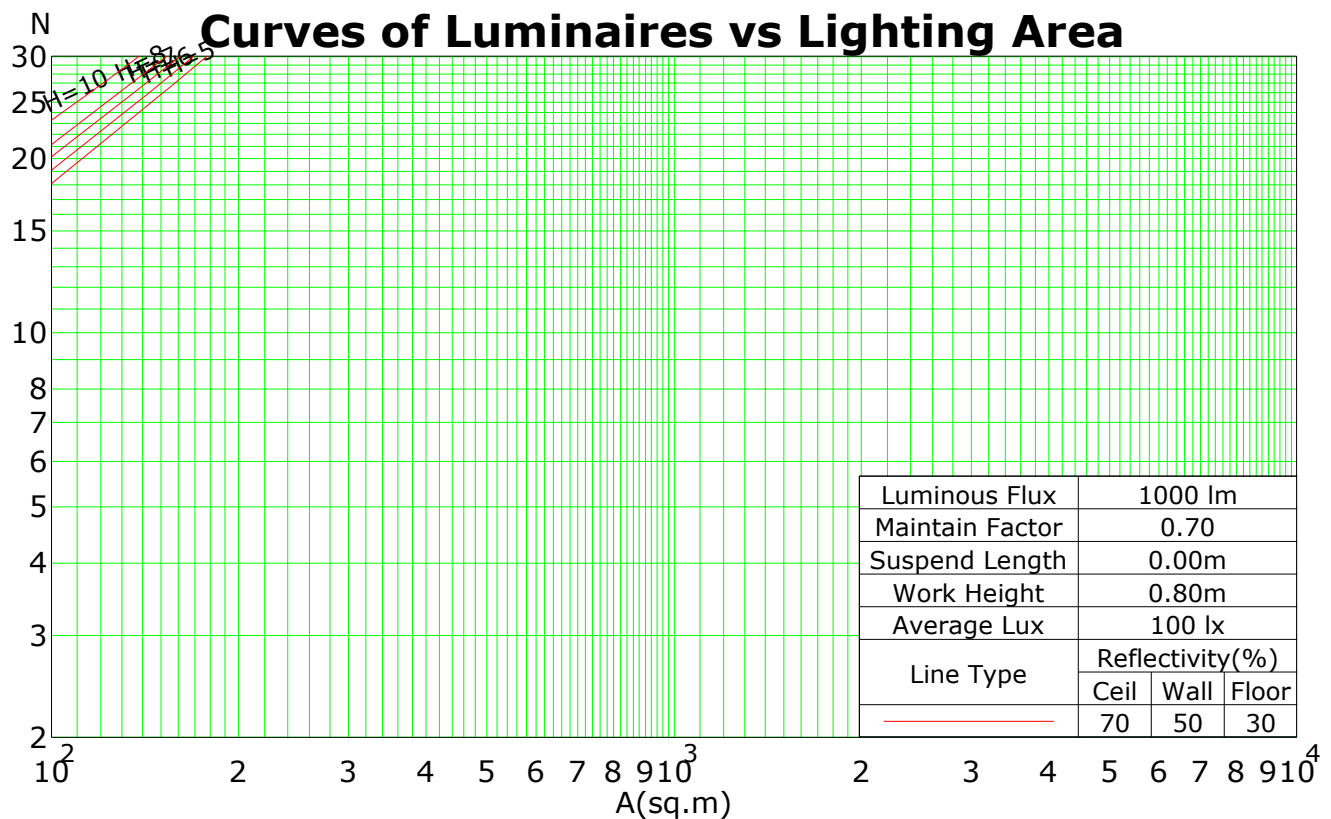
Coefficients Of Utilization - Zonal Cavity Method

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	103	103	103	103	101	101	101	101	96	96	96	92	92	92	88	88	88	87
1	99	97	95	93	97	95	93	92	91	90	89	88	87	86	85	84	84	82
2	95	91	88	85	93	90	87	84	87	85	83	84	82	81	82	80	79	78
3	91	86	82	79	89	85	81	79	83	80	77	80	78	76	79	77	75	74
4	87	81	77	74	85	80	76	73	79	75	73	77	74	72	75	73	71	70
5	83	77	73	69	82	76	72	69	75	71	69	73	70	68	72	69	67	66
6	80	73	69	65	79	73	68	65	71	68	65	70	67	64	69	66	64	63
7	77	70	65	62	76	69	65	62	68	64	61	67	64	61	66	63	61	60
8	74	66	62	59	73	66	62	59	65	61	58	64	61	58	63	60	58	57
9	71	63	59	56	70	63	59	56	62	58	56	61	58	55	61	58	55	54
10	68	61	56	53	67	60	56	53	60	56	53	59	55	53	58	55	53	52

Spacing Criteria (0-180): 0.82

Spacing Criteria (90-270): 0.81

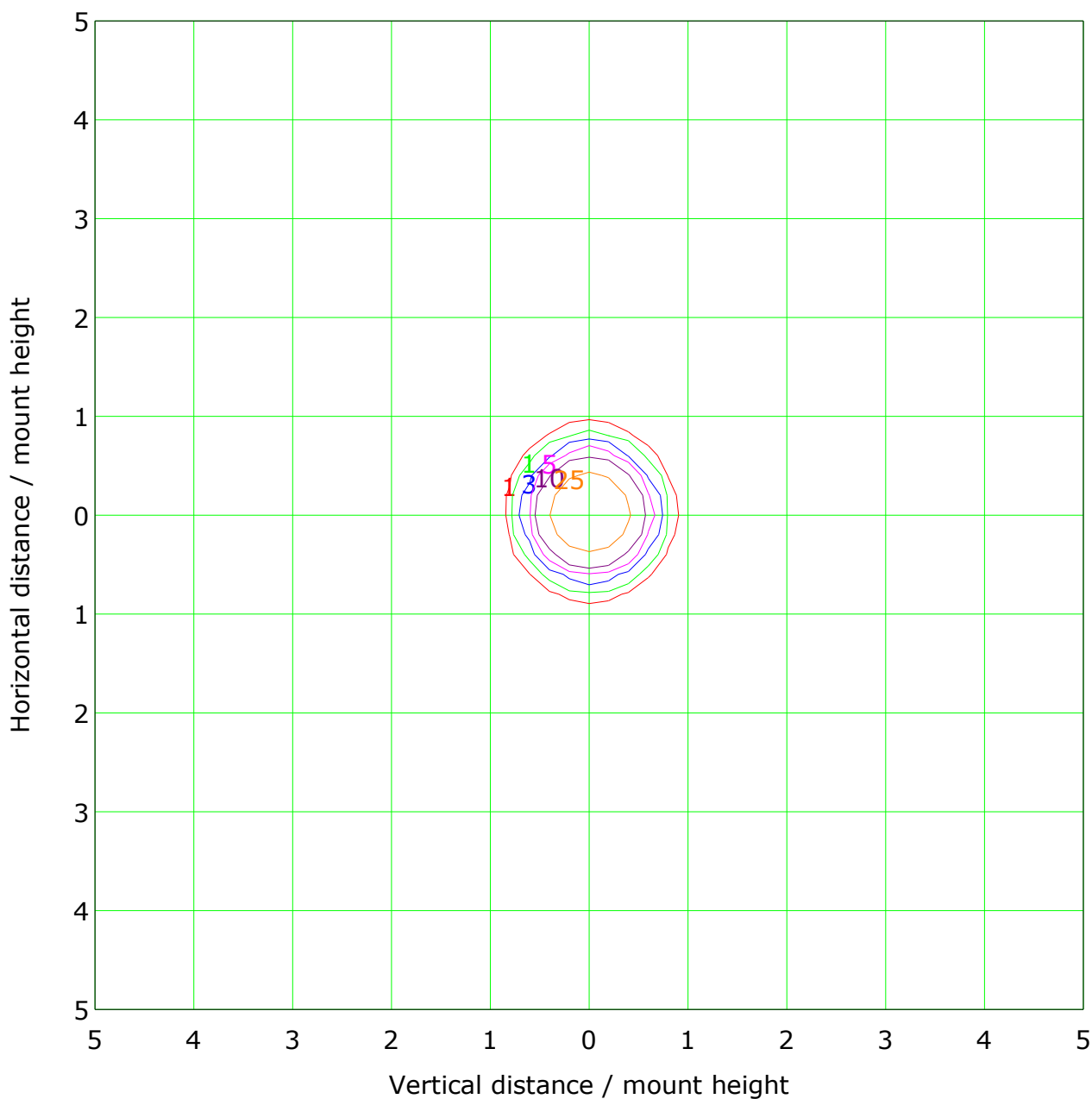
Spacing Criteria (Diagonal): 0.74



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

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1600L
Distance: 9.860 m
Humidity:
Inspector:

IsoLux Plot



Mounting Height: 10.0m Max Lux(100%): 50.4 lx

(1%): 0.5 lx	(2%): 1.0 lx
(5%): 2.5 lx	(10%): 5.0 lx
(20%): 10.1 lx	(50%): 25.2 lx
(100%): 50.4 lx	

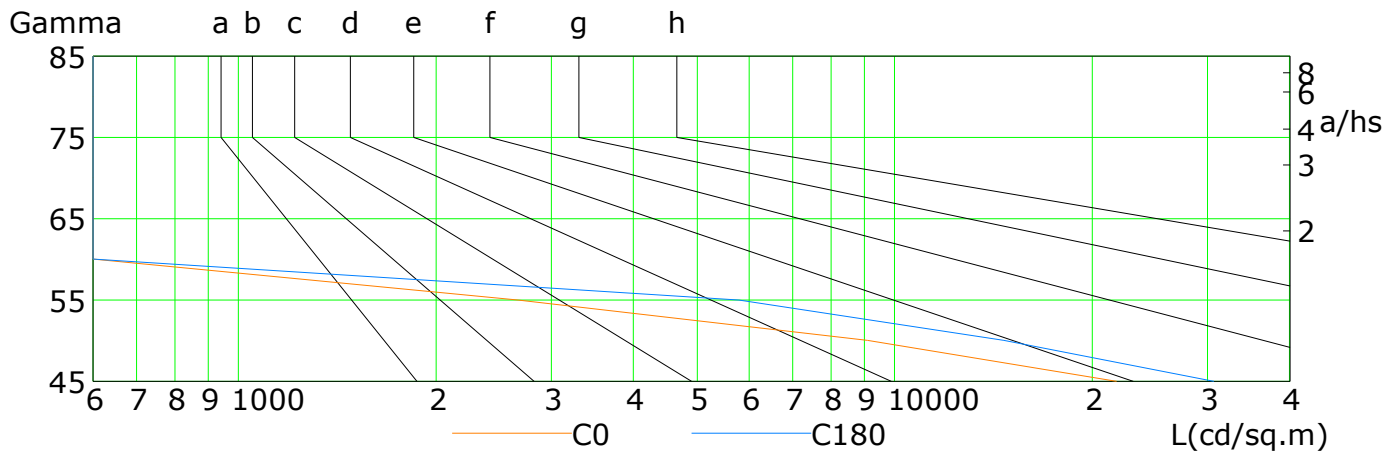
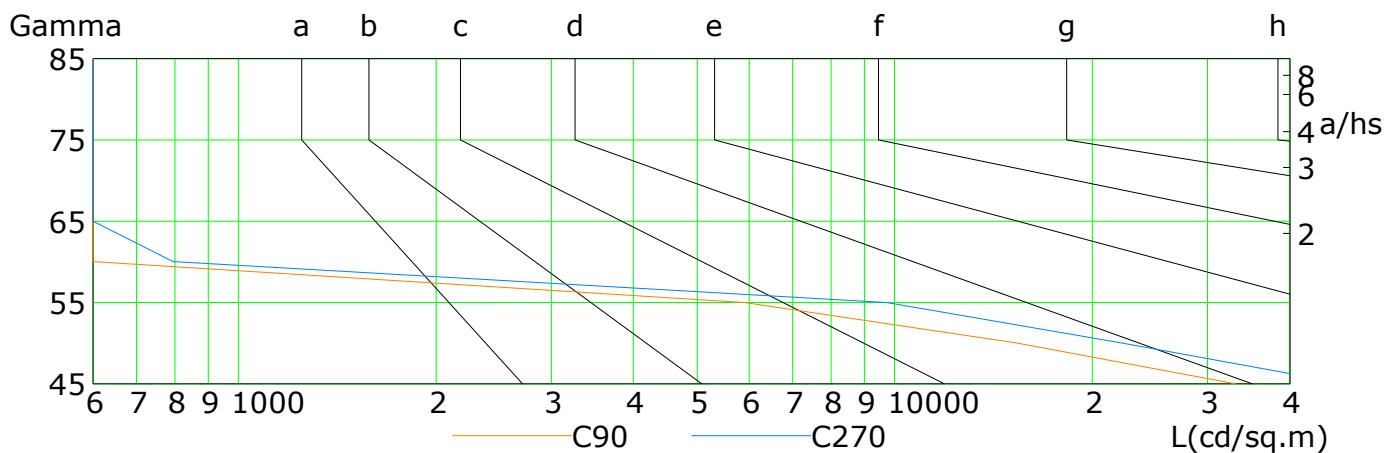
C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1600L
Distance: 9.860 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

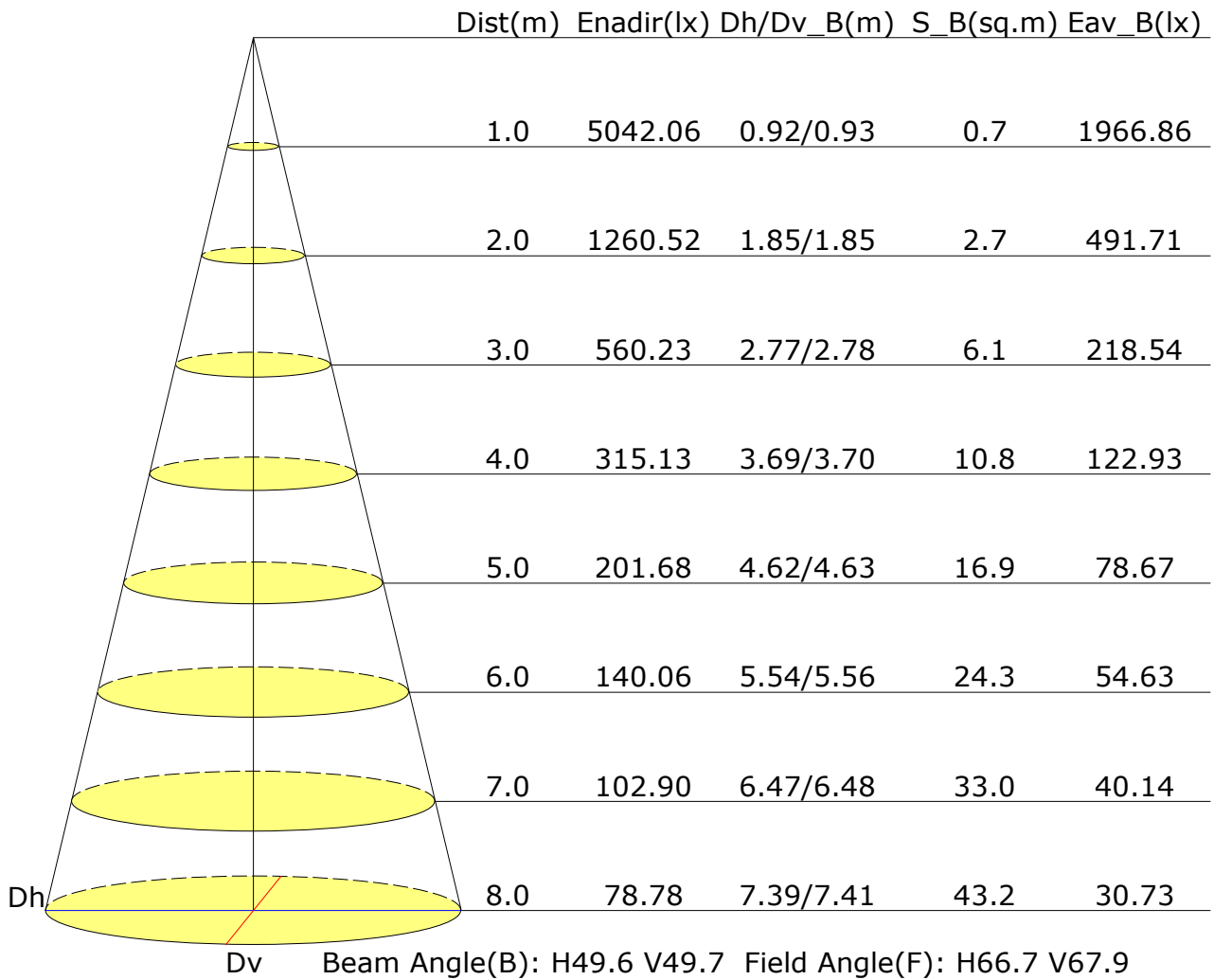


L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	21812	9103	2666	0	0	0	0	0	0
C90	33095	15309	5912	0	0	0	0	0	0
C180	30655	14685	5794	0	0	0	0	0	0
C270	48987	22134	9740	795	0	0	0	0	0

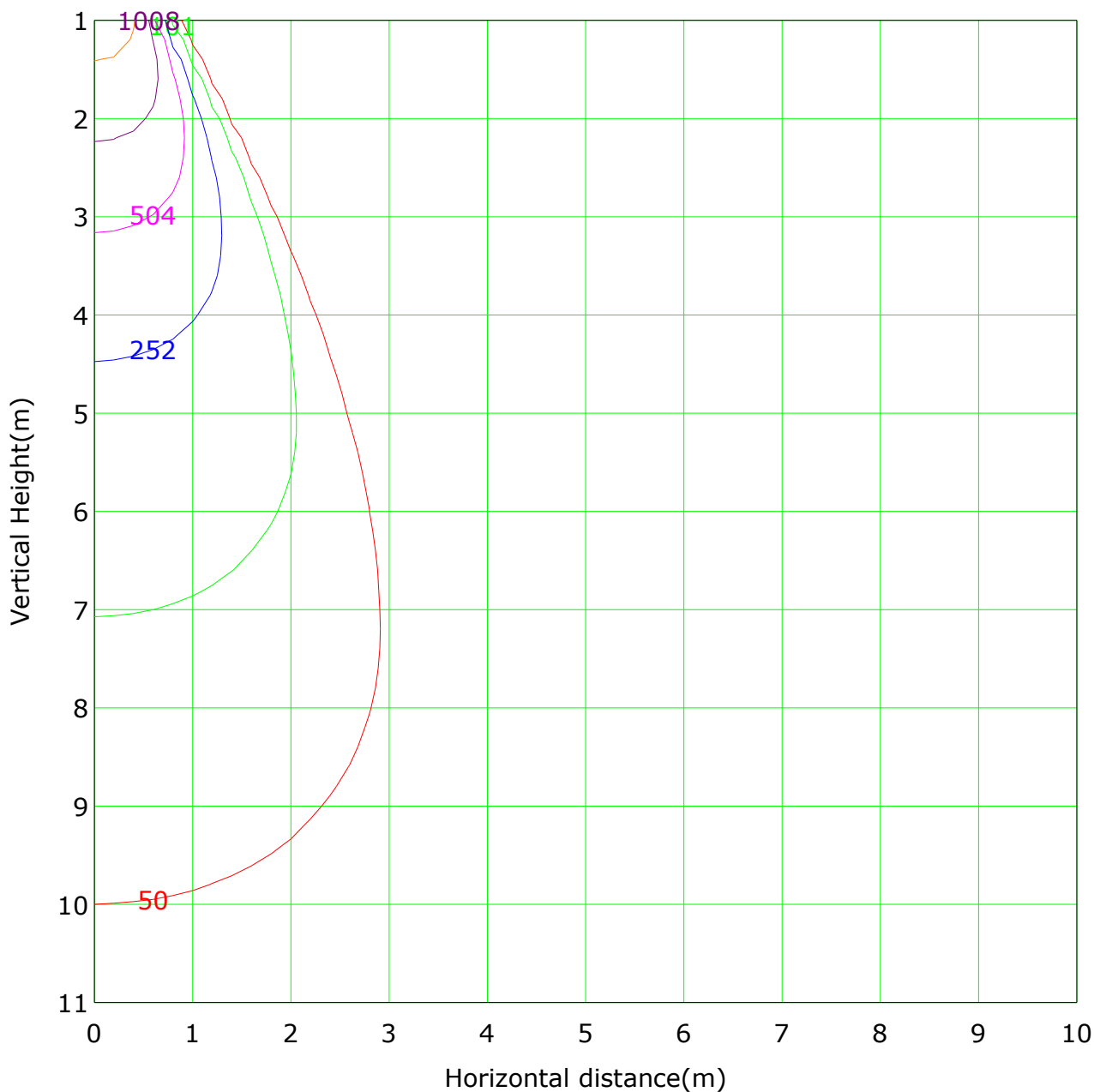
C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1600L
Distance: 9.860 m
Humidity:
Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 5042.1 lx

— (1%): 50.4 lx	— (2%): 100.8 lx
— (5%): 252.1 lx	— (10%): 504.2 lx
— (20%): 1008.4 lx	— (50%): 2521.0 lx
— (100%): 5042.1 lx	

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

Gamma Plane (°): 0.0-180.0: 1.0
Test Device: GPM-1600L
Distance: 9.860 m
Humidity:
Inspector:

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	17.2	17.9	17.4	18.1	18.3	19.5	20.3	19.8	20.5	20.7
3H	17.0	17.7	17.3	18.0	18.2	19.4	20.1	19.7	20.3	20.5
4H	17.0	17.6	17.3	17.9	18.1	19.3	19.9	19.6	20.2	20.5
6H	16.9	17.5	17.2	17.8	18.0	19.2	19.8	19.6	20.1	20.4
8H	16.9	17.4	17.2	17.7	18.0	19.2	19.8	19.5	20.0	20.3
12H	16.8	17.4	17.2	17.7	18.0	19.1	19.7	19.5	20.0	20.3
X=4H Y=2H	17.0	17.6	17.3	17.9	18.1	19.3	19.9	19.6	20.2	20.5
3H	16.8	17.4	17.2	17.7	18.0	19.1	19.7	19.5	20.0	20.3
4H	16.7	17.2	17.1	17.6	17.9	19.1	19.5	19.4	19.9	20.2
6H	16.6	17.1	17.1	17.4	17.8	19.0	19.4	19.4	19.8	20.2
8H	16.6	17.0	17.0	17.4	17.8	18.9	19.3	19.4	19.7	20.1
12H	16.6	16.9	17.0	17.3	17.7	18.9	19.2	19.3	19.6	20.1
X=8H Y=4H	16.6	17.0	17.0	17.4	17.8	18.9	19.3	19.4	19.7	20.1
6H	16.5	16.8	17.0	17.2	17.7	18.8	19.2	19.3	19.6	20.0
8H	16.5	16.7	16.9	17.2	17.7	18.8	19.1	19.3	19.5	20.0
12H	16.4	16.7	16.9	17.1	17.6	18.7	19.0	19.2	19.5	19.9
X=12H Y=4H	16.6	16.9	17.0	17.3	17.7	18.9	19.2	19.3	19.6	20.1
6H	16.5	16.7	16.9	17.2	17.7	18.8	19.1	19.3	19.5	20.0
8H	16.4	16.7	16.9	17.1	17.6	18.7	19.0	19.2	19.5	19.9
Variations with the observer position at spacings:										
S=1.0H	+6.0/-18.0					+6.3/-16.0				
S=1.5H	+8.8/-1.\$					+9.1/-1.\$				
S=2.0H	+10.8/-1.\$					+11.1/-1.\$				

Calculate in accordance with CIE Pub.117. The table is revised with 3589lm ($8\log(F/F_0) = 4.4$).

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

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1600L
Distance: 9.860 m
Humidity:
Inspector:

Zonal Lumen

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
0.0-1.0	5029.9	4.8	4.8	0.13	0.13
1.0-2.0	5025.5	14.4	19.2	0.40	0.54
2.0-3.0	5016.6	24.0	43.2	0.67	1.20
3.0-4.0	5002.6	33.5	76.7	0.93	2.14
4.0-5.0	4983.0	42.9	119.6	1.19	3.33
5.0-6.0	4956.5	52.1	171.7	1.45	4.78
6.0-7.0	4923.2	61.1	232.8	1.70	6.49
7.0-8.0	4883.6	69.9	302.7	1.95	8.43
8.0-9.0	4835.3	78.4	381.1	2.18	10.62
9.0-10.0	4779.8	86.5	467.6	2.41	13.03
10.0-11.0	4715.1	94.2	561.8	2.63	15.65
11.0-12.0	4641.9	101.5	663.3	2.83	18.48
12.0-13.0	4560.2	108.2	771.5	3.02	21.50
13.0-14.0	4463.4	114.3	885.8	3.18	24.68
14.0-15.0	4356.6	119.6	1005.4	3.33	28.01
15.0-16.0	4240.1	124.3	1129.7	3.46	31.48
16.0-17.0	4116.6	128.2	1257.9	3.57	35.05
17.0-18.0	3990.6	131.6	1389.5	3.67	38.72
18.0-19.0	3846.0	133.8	1523.3	3.73	42.44
19.0-20.0	3686.4	134.9	1658.3	3.76	46.20
20.0-21.0	3515.0	135.0	1793.2	3.76	49.97
21.0-22.0	3312.8	133.1	1926.4	3.71	53.67
22.0-23.0	3094.1	129.8	2056.2	3.62	57.29
23.0-24.0	2854.4	124.8	2181.0	3.48	60.77
24.0-25.0	2594.2	118.0	2299.0	3.29	64.06
25.0-26.0	2336.6	110.3	2409.3	3.07	67.13
26.0-27.0	2065.2	101.1	2510.4	2.82	69.95
27.0-28.0	1795.0	90.9	2601.3	2.53	72.48
28.0-29.0	1547.9	81.0	2682.3	2.26	74.74
29.0-30.0	1305.5	70.5	2752.8	1.96	76.70
30.0-31.0	1082.2	60.2	2813.0	1.68	78.38
31.0-32.0	881.1	50.5	2863.5	1.41	79.78
32.0-33.0	702.7	41.4	2904.9	1.15	80.94
33.0-34.0	558.4	33.8	2938.7	0.94	81.88
34.0-35.0	436.9	27.1	2965.8	0.76	82.64
35.0-36.0	343.1	21.8	2987.7	0.61	83.25

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

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1600L
Distance: 9.860 m
Humidity:
Inspector:

Zonal Lumen (Continue 1)

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
36.0-37.0	274.9	17.9	3005.6	0.50	83.74
37.0-38.0	225.2	15.0	3020.6	0.42	84.16
38.0-39.0	188.8	12.9	3033.5	0.36	84.52
39.0-40.0	158.4	11.1	3044.6	0.31	84.83
40.0-41.0	133.7	9.5	3054.1	0.27	85.10
41.0-42.0	113.8	8.3	3062.4	0.23	85.33
42.0-43.0	95.7	7.1	3069.5	0.20	85.52
43.0-44.0	80.8	6.1	3075.6	0.17	85.69
44.0-45.0	68.6	5.3	3080.8	0.15	85.84
45.0-46.0	57.6	4.5	3085.3	0.13	85.97
46.0-47.0	48.2	3.8	3089.2	0.11	86.07
47.0-48.0	40.5	3.3	3092.4	0.09	86.16
48.0-49.0	34.2	2.8	3095.3	0.08	86.24
49.0-50.0	28.8	2.4	3097.7	0.07	86.31
50.0-51.0	23.5	2.0	3099.6	0.06	86.37
51.0-52.0	19.2	1.6	3101.3	0.05	86.41
52.0-53.0	15.9	1.4	3102.7	0.04	86.45
53.0-54.0	12.8	1.1	3103.8	0.03	86.48
54.0-55.0	10.3	0.9	3104.7	0.03	86.51
55.0-56.0	7.6	0.7	3105.4	0.02	86.53
56.0-57.0	5.1	0.5	3105.9	0.01	86.54
57.0-58.0	3.4	0.3	3106.2	0.01	86.55
58.0-59.0	2.0	0.2	3106.4	0.01	86.55
59.0-60.0	0.7	0.1	3106.4	0.00	86.55
60.0-61.0	0.2	0.0	3106.5	0.00	86.56
61.0-62.0	0.0	0.0	3106.5	0.00	86.56
62.0-63.0	0.0	0.0	3106.5	0.00	86.56
63.0-64.0	0.0	0.0	3106.5	0.00	86.56
64.0-65.0	0.0	0.0	3106.5	0.00	86.56
65.0-66.0	0.0	0.0	3106.5	0.00	86.56
66.0-67.0	0.0	0.0	3106.5	0.00	86.56
67.0-68.0	0.0	0.0	3106.5	0.00	86.56
68.0-69.0	0.0	0.0	3106.5	0.00	86.56
69.0-70.0	0.0	0.0	3106.5	0.00	86.56
70.0-71.0	0.0	0.0	3106.5	0.00	86.56
71.0-72.0	0.0	0.0	3106.5	0.00	86.56

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

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1600L
Distance: 9.860 m
Humidity:
Inspector:

Zonal Lumen (Continue 2)

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
72.0-73.0	0.0	0.0	3106.5	0.00	86.56
73.0-74.0	0.0	0.0	3106.5	0.00	86.56
74.0-75.0	0.0	0.0	3106.5	0.00	86.56
75.0-76.0	0.0	0.0	3106.5	0.00	86.56
76.0-77.0	0.0	0.0	3106.5	0.00	86.56
77.0-78.0	0.0	0.0	3106.5	0.00	86.56
78.0-79.0	0.0	0.0	3106.5	0.00	86.56
79.0-80.0	0.0	0.0	3106.5	0.00	86.56
80.0-81.0	0.0	0.0	3106.5	0.00	86.56
81.0-82.0	0.0	0.0	3106.5	0.00	86.56
82.0-83.0	0.0	0.0	3106.5	0.00	86.56
83.0-84.0	0.0	0.0	3106.5	0.00	86.56
84.0-85.0	0.0	0.0	3106.5	0.00	86.56
85.0-86.0	0.0	0.0	3106.5	0.00	86.56
86.0-87.0	0.0	0.0	3106.5	0.00	86.56
87.0-88.0	0.0	0.0	3106.5	0.00	86.56
88.0-89.0	0.0	0.0	3106.5	0.00	86.56
89.0-90.0	0.0	0.0	3106.5	0.00	86.56
90.0-91.0	0.0	0.0	3106.5	0.00	86.56
91.0-92.0	0.0	0.0	3106.5	0.00	86.56
92.0-93.0	0.0	0.0	3106.5	0.00	86.56
93.0-94.0	0.0	0.0	3106.5	0.00	86.56
94.0-95.0	0.0	0.0	3106.5	0.00	86.56
95.0-96.0	0.0	0.0	3106.5	0.00	86.56
96.0-97.0	0.0	0.0	3106.5	0.00	86.56
97.0-98.0	0.0	0.0	3106.5	0.00	86.56
98.0-99.0	0.0	0.0	3106.5	0.00	86.56
99.0-100.0	0.0	0.0	3106.5	0.00	86.56
100.0-101.0	0.0	0.0	3106.5	0.00	86.56
101.0-102.0	0.0	0.0	3106.5	0.00	86.56
102.0-103.0	0.0	0.0	3106.5	0.00	86.56
103.0-104.0	0.0	0.0	3106.5	0.00	86.56
104.0-105.0	0.0	0.0	3106.5	0.00	86.56
105.0-106.0	0.0	0.0	3106.5	0.00	86.56
106.0-107.0	0.0	0.0	3106.5	0.00	86.56
107.0-108.0	0.0	0.0	3106.5	0.00	86.56

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

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1600L
Distance: 9.860 m
Humidity:
Inspector:

Zonal Lumen (Continue 3)

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
108.0-109.0	0.0	0.0	3106.5	0.00	86.56
109.0-110.0	0.0	0.0	3106.5	0.00	86.56
110.0-111.0	0.0	0.0	3106.5	0.00	86.56
111.0-112.0	0.0	0.0	3106.5	0.00	86.56
112.0-113.0	0.0	0.0	3106.5	0.00	86.56
113.0-114.0	0.0	0.0	3106.5	0.00	86.56
114.0-115.0	0.0	0.0	3106.5	0.00	86.56
115.0-116.0	0.0	0.0	3106.5	0.00	86.56
116.0-117.0	0.0	0.0	3106.5	0.00	86.56
117.0-118.0	0.0	0.0	3106.5	0.00	86.56
118.0-119.0	0.0	0.0	3106.5	0.00	86.56
119.0-120.0	0.0	0.0	3106.5	0.00	86.56
120.0-121.0	0.0	0.0	3106.5	0.00	86.56
121.0-122.0	0.0	0.0	3106.5	0.00	86.56
122.0-123.0	0.0	0.0	3106.5	0.00	86.56
123.0-124.0	0.0	0.0	3106.5	0.00	86.56
124.0-125.0	0.0	0.0	3106.5	0.00	86.56
125.0-126.0	0.0	0.0	3106.5	0.00	86.56
126.0-127.0	0.0	0.0	3106.5	0.00	86.56
127.0-128.0	0.0	0.0	3106.5	0.00	86.56
128.0-129.0	0.0	0.0	3106.5	0.00	86.56
129.0-130.0	0.0	0.0	3106.5	0.00	86.56
130.0-131.0	0.0	0.0	3106.5	0.00	86.56
131.0-132.0	0.0	0.0	3106.5	0.00	86.56
132.0-133.0	0.0	0.0	3106.5	0.00	86.56
133.0-134.0	0.0	0.0	3106.5	0.00	86.56
134.0-135.0	0.0	0.0	3106.5	0.00	86.56
135.0-136.0	0.0	0.0	3106.5	0.00	86.56
136.0-137.0	0.0	0.0	3106.5	0.00	86.56
137.0-138.0	0.0	0.0	3106.5	0.00	86.56
138.0-139.0	0.0	0.0	3106.5	0.00	86.56
139.0-140.0	0.0	0.0	3106.5	0.00	86.56
140.0-141.0	0.0	0.0	3106.5	0.00	86.56
141.0-142.0	0.0	0.0	3106.5	0.00	86.56
142.0-143.0	0.0	0.0	3106.5	0.00	86.56
143.0-144.0	0.0	0.0	3106.5	0.00	86.56

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

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1600L
Distance: 9.860 m
Humidity:
Inspector:

Zonal Lumen (Continue 4)

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
144.0-145.0	0.0	0.0	3106.5	0.00	86.56
145.0-146.0	0.0	0.0	3106.5	0.00	86.56
146.0-147.0	0.0	0.0	3106.5	0.00	86.56
147.0-148.0	0.0	0.0	3106.5	0.00	86.56
148.0-149.0	0.0	0.0	3106.5	0.00	86.56
149.0-150.0	0.0	0.0	3106.5	0.00	86.56
150.0-151.0	0.0	0.0	3106.5	0.00	86.56
151.0-152.0	0.0	0.0	3106.5	0.00	86.56
152.0-153.0	0.0	0.0	3106.5	0.00	86.56
153.0-154.0	0.0	0.0	3106.5	0.00	86.56
154.0-155.0	0.0	0.0	3106.5	0.00	86.56
155.0-156.0	0.0	0.0	3106.5	0.00	86.56
156.0-157.0	0.0	0.0	3106.5	0.00	86.56
157.0-158.0	0.0	0.0	3106.5	0.00	86.56
158.0-159.0	0.0	0.0	3106.5	0.00	86.56
159.0-160.0	0.0	0.0	3106.5	0.00	86.56
160.0-161.0	0.0	0.0	3106.5	0.00	86.56
161.0-162.0	0.0	0.0	3106.5	0.00	86.56
162.0-163.0	0.0	0.0	3106.5	0.00	86.56
163.0-164.0	0.0	0.0	3106.5	0.00	86.56
164.0-165.0	0.0	0.0	3106.5	0.00	86.56
165.0-166.0	0.0	0.0	3106.5	0.00	86.56
166.0-167.0	0.0	0.0	3106.5	0.00	86.56
167.0-168.0	0.0	0.0	3106.5	0.00	86.56
168.0-169.0	0.0	0.0	3106.5	0.00	86.56
169.0-170.0	0.0	0.0	3106.5	0.00	86.56
170.0-171.0	0.0	0.0	3106.5	0.00	86.56
171.0-172.0	0.0	0.0	3106.5	0.00	86.56
172.0-173.0	0.0	0.0	3106.5	0.00	86.56
173.0-174.0	0.0	0.0	3106.5	0.00	86.56
174.0-175.0	0.0	0.0	3106.5	0.00	86.56
175.0-176.0	0.0	0.0	3106.5	0.00	86.56
176.0-177.0	0.0	0.0	3106.5	0.00	86.56
177.0-178.0	0.0	0.0	3106.5	0.00	86.56
178.0-179.0	0.0	0.0	3106.5	0.00	86.56
179.0-180.0	0.0	0.0	3106.5	0.00	86.56

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

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1600L
Distance: 9.860 m
Humidity:
Inspector: