

Report No.: ARC013-0815004

Test Time: 2024-08-26 10:58

Luminaire Property

Luminaire Manufacturer:

Luminaire Description: VLT480-32W-3000K-Ra90-24D W

Lamp Description: V13-C

Lumens per Lamp: 3950

Luminous Width (mm): -58

Voltage: 220.9 V

Power: 31.63 W

Number of Lamps: 1

Luminous Length (mm): -58

Luminous Height (mm): 0

Current: 0.146 A

Power Factor: 0.982

Photometric Results

CIE Class: Direct

Measurement Flux: 3599 lm

Downward Ratio: 91.11%

Horizontal Diffuse Angle(50%): H31.5

Vertical Diffuse Angle(50%): V32

Luminaire Efficacy Rating (LER): 113.84

Max. Intensity: 12112.67 cd

S/MH(C0/C180): 0.53

Total Rated Lamp Lumens: 3950.0 lm

Efficiency: 91.11%

Upward Ratio: 0.00%

Central Intensity: 12004.46 cd

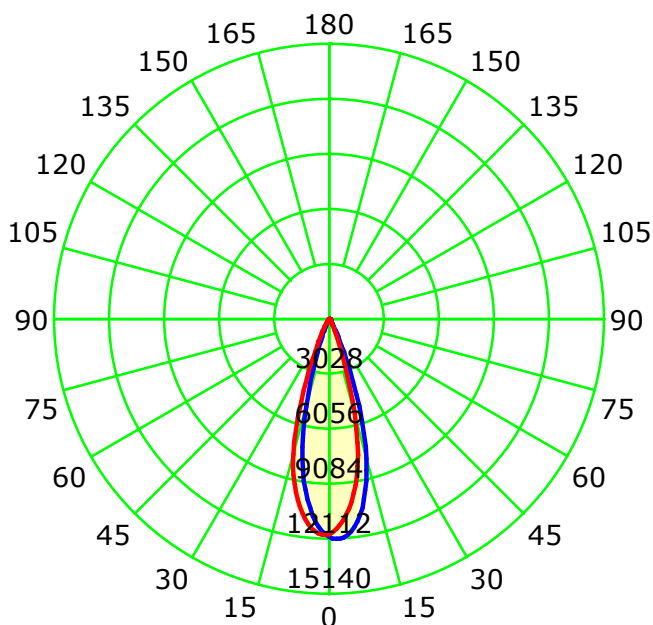
Pos of Max. Intensity: H0 V2

S/MH(C90/C270): 0.54

Picture Of Luminaire



Luminous Intensity Distribution Curve



Unit: cd

Average Diffuse Angle(50%): 31.7°

— 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

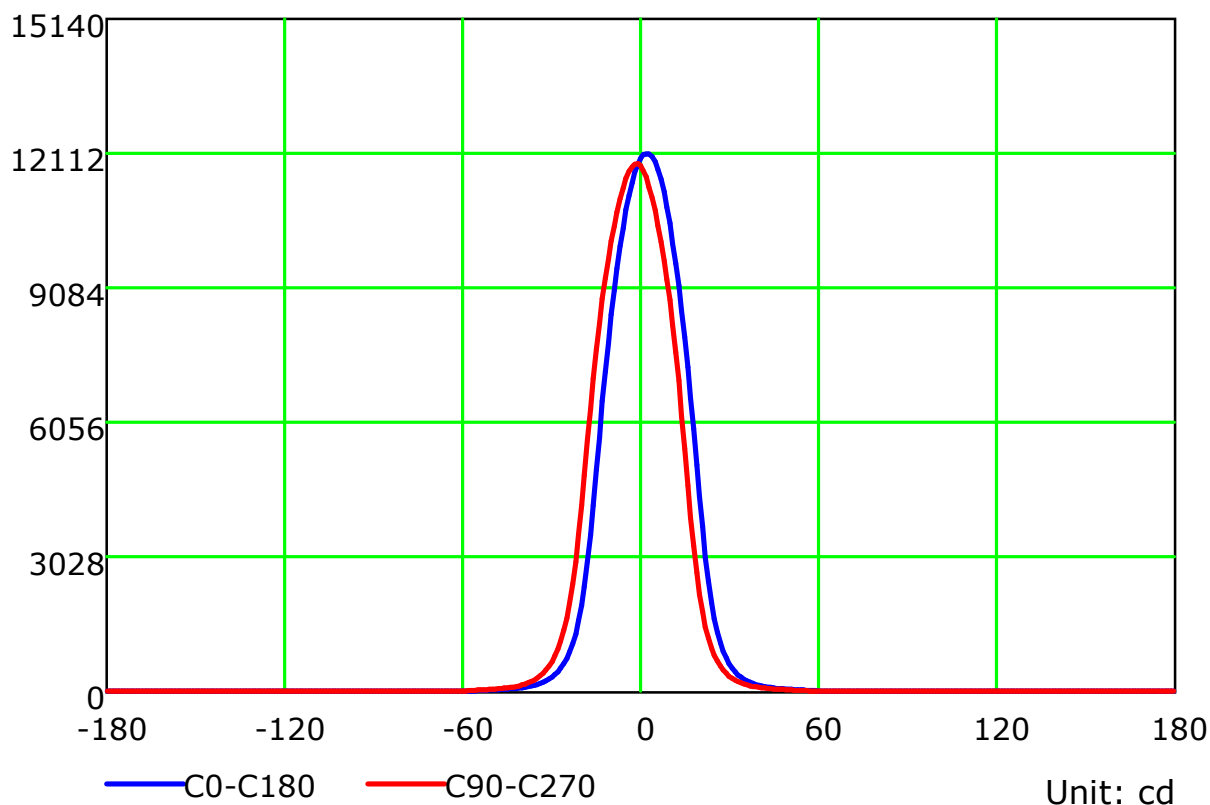
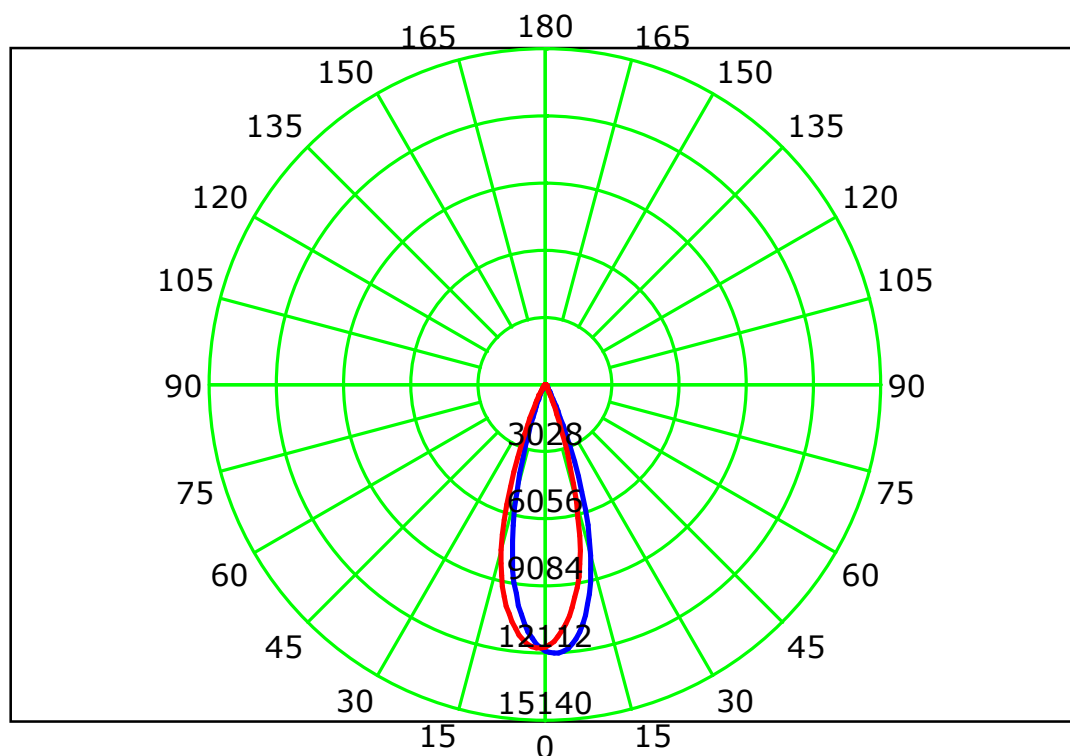
Test Device: GPM-1600L

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
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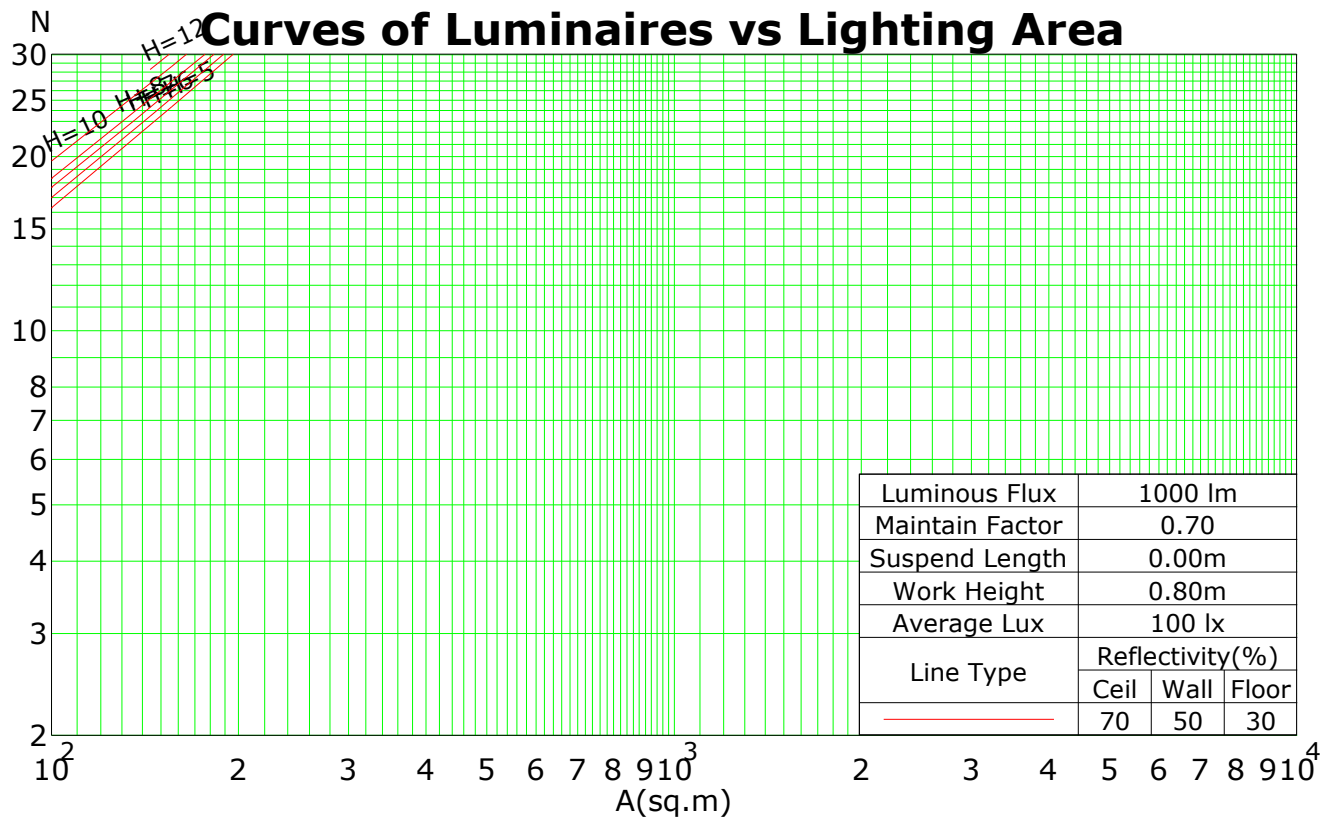
Coefficients Of Utilization - Zonal Cavity Method

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	108	108	108	108	106	106	106	106	101	101	101	97	97	97	93	93	93	91
1	105	103	101	99	102	101	99	98	97	96	95	94	93	92	91	90	89	88
2	101	98	95	92	99	96	93	91	93	91	89	91	89	87	88	87	86	84
3	97	93	90	87	96	92	89	86	90	87	85	87	85	84	86	84	82	81
4	94	89	85	82	93	88	85	82	86	83	81	85	82	80	83	81	79	78
5	91	85	82	79	90	85	81	78	83	80	78	82	79	77	81	78	76	75
6	88	82	78	75	87	82	78	75	80	77	75	79	76	74	78	76	74	73
7	85	79	75	72	84	79	75	72	78	74	72	77	74	72	76	73	71	70
8	83	77	73	70	82	76	72	70	75	72	69	74	71	69	74	71	69	68
9	80	74	70	67	80	74	70	67	73	69	67	72	69	67	72	69	67	66
10	78	72	68	65	77	71	68	65	71	67	65	70	67	65	70	67	65	64

Spacing Criteria (0-180): 0.53

Spacing Criteria (90-270): 0.54

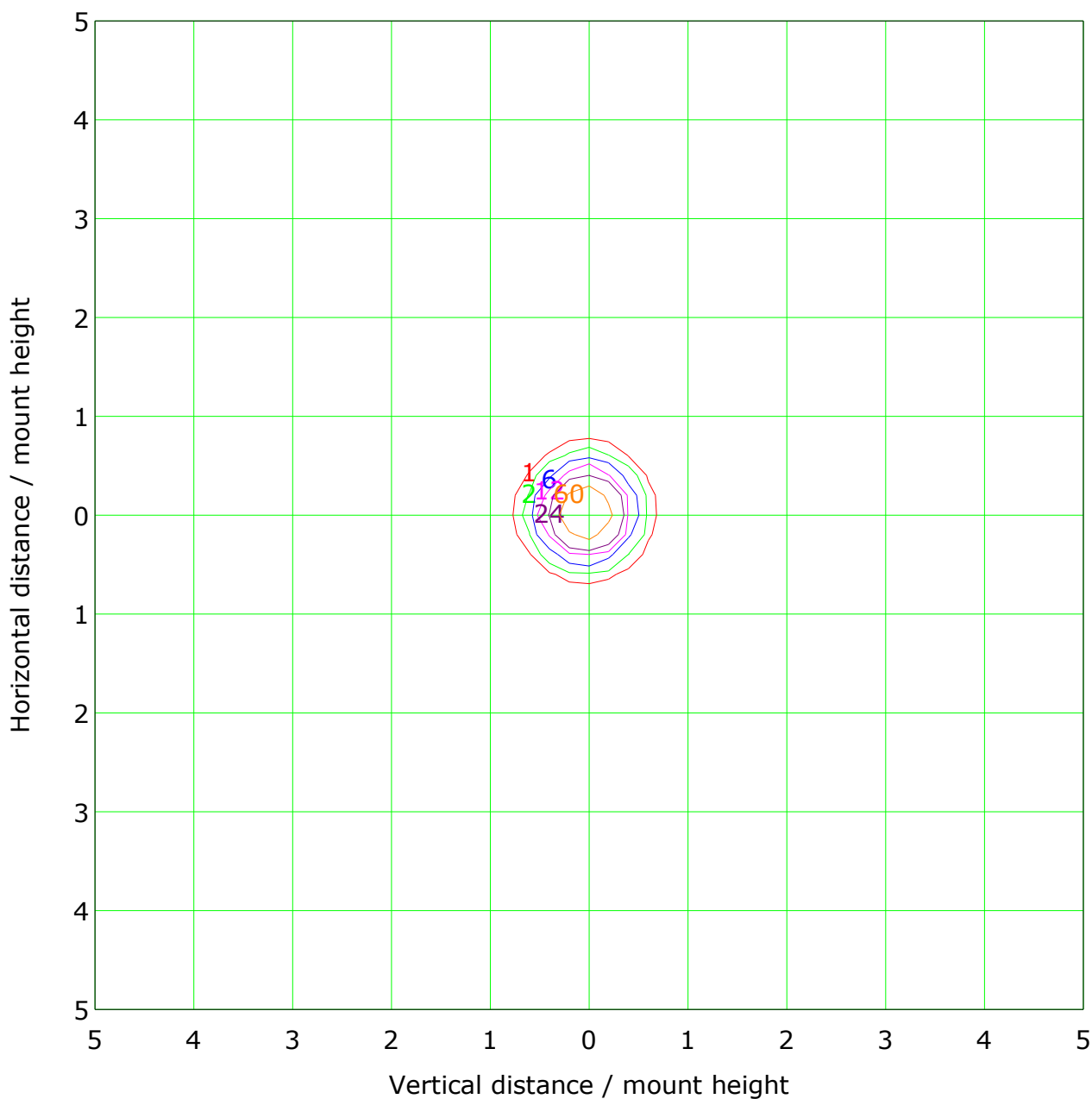
Spacing Criteria (Diagonal): 0.50



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%): 120.9 lx

(1%): 1.2 lx	(2%): 2.4 lx
(5%): 6.0 lx	(10%): 12.1 lx
(20%): 24.2 lx	(50%): 60.5 lx
(100%): 120.9 lx	

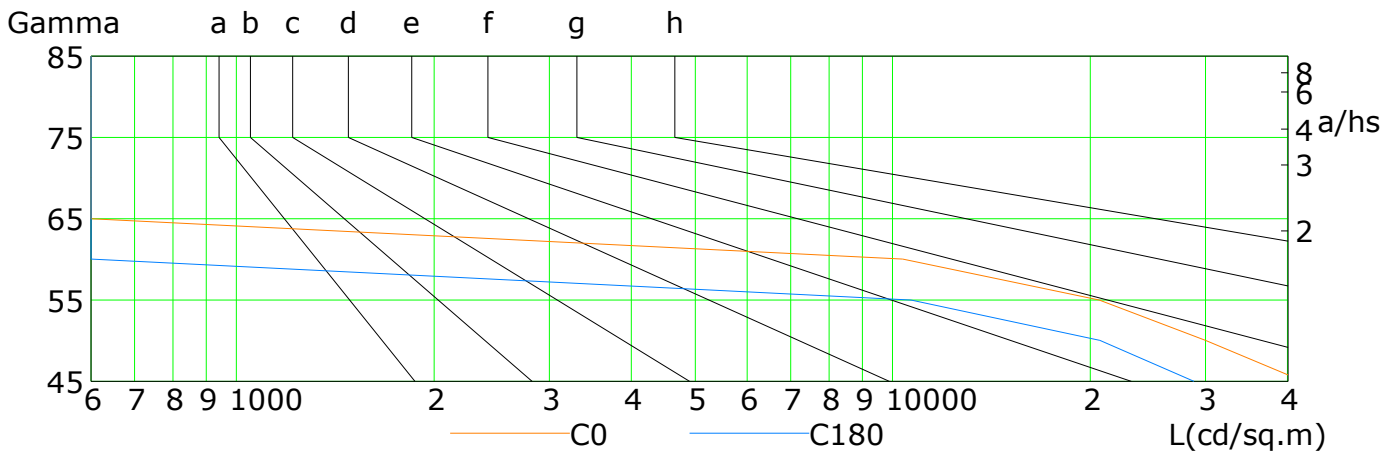
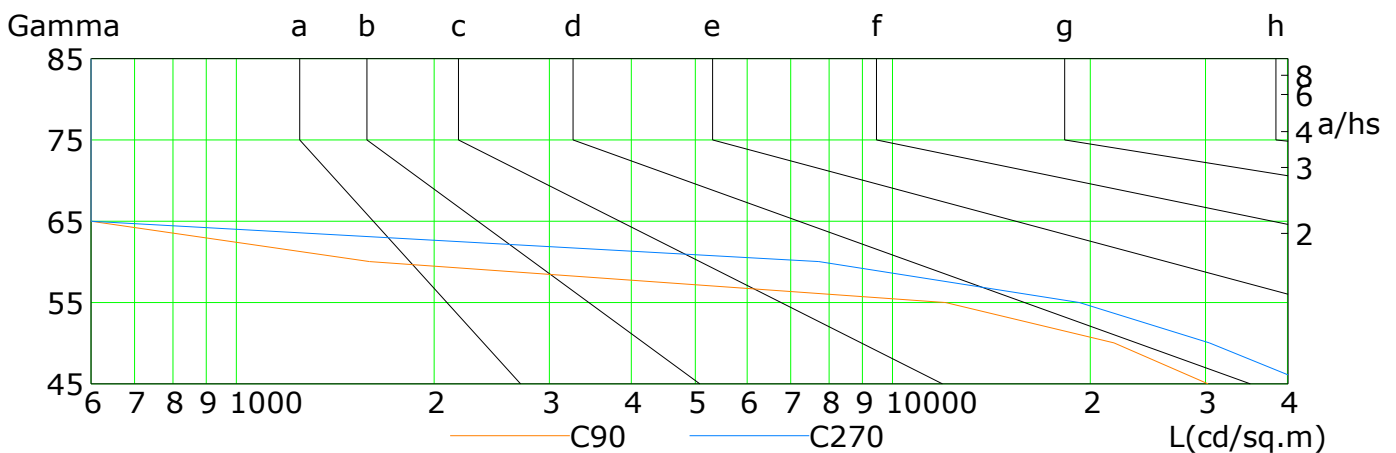
C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

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

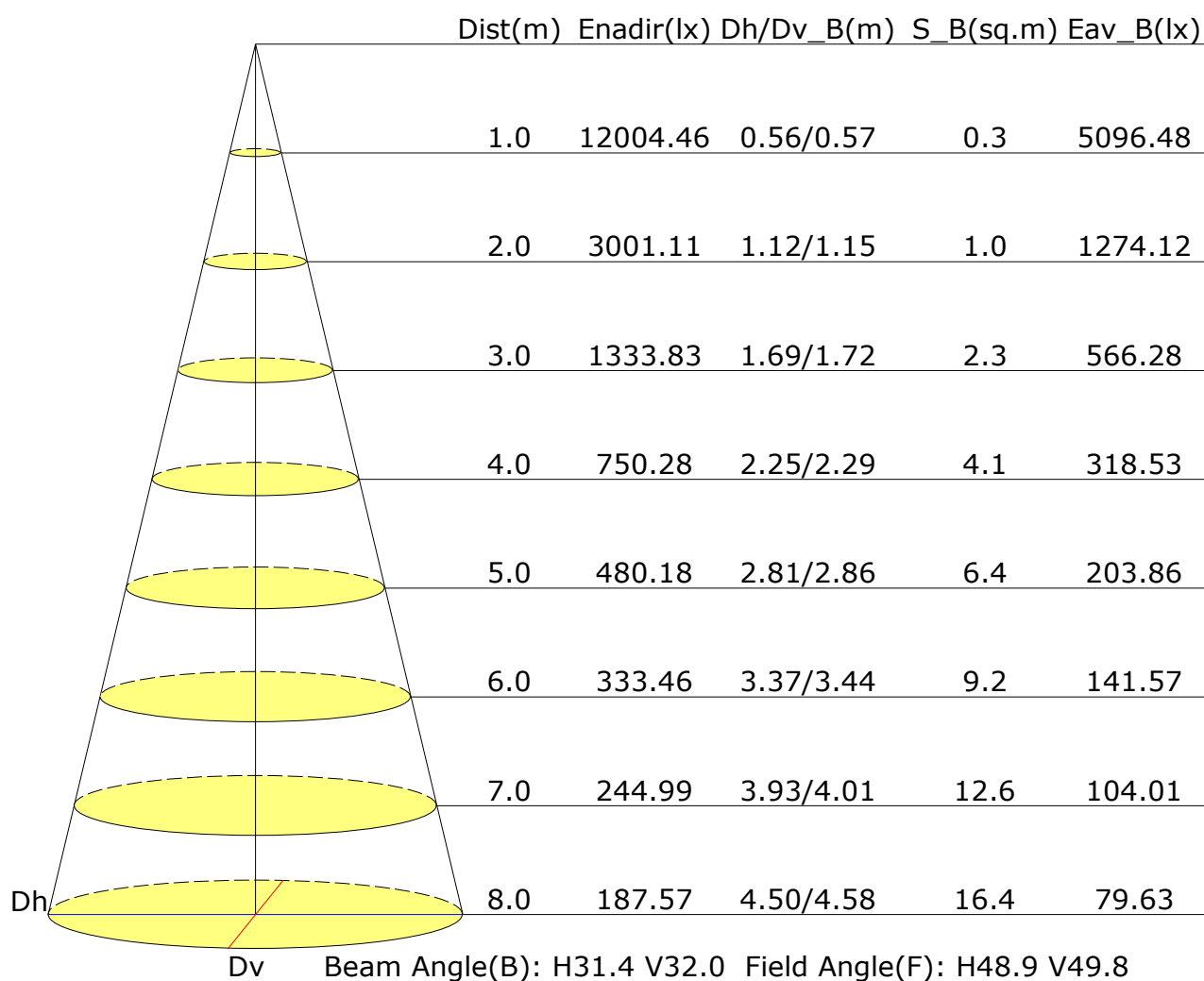


L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	42313	29995	20634	10371	0	0	0	0	0
C90	30275	21722	12056	1597	0	0	0	0	0
C180	28771	20685	10664	0	0	0	0	0	0
C270	43442	30407	19242	7714	0	0	0	0	0

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:

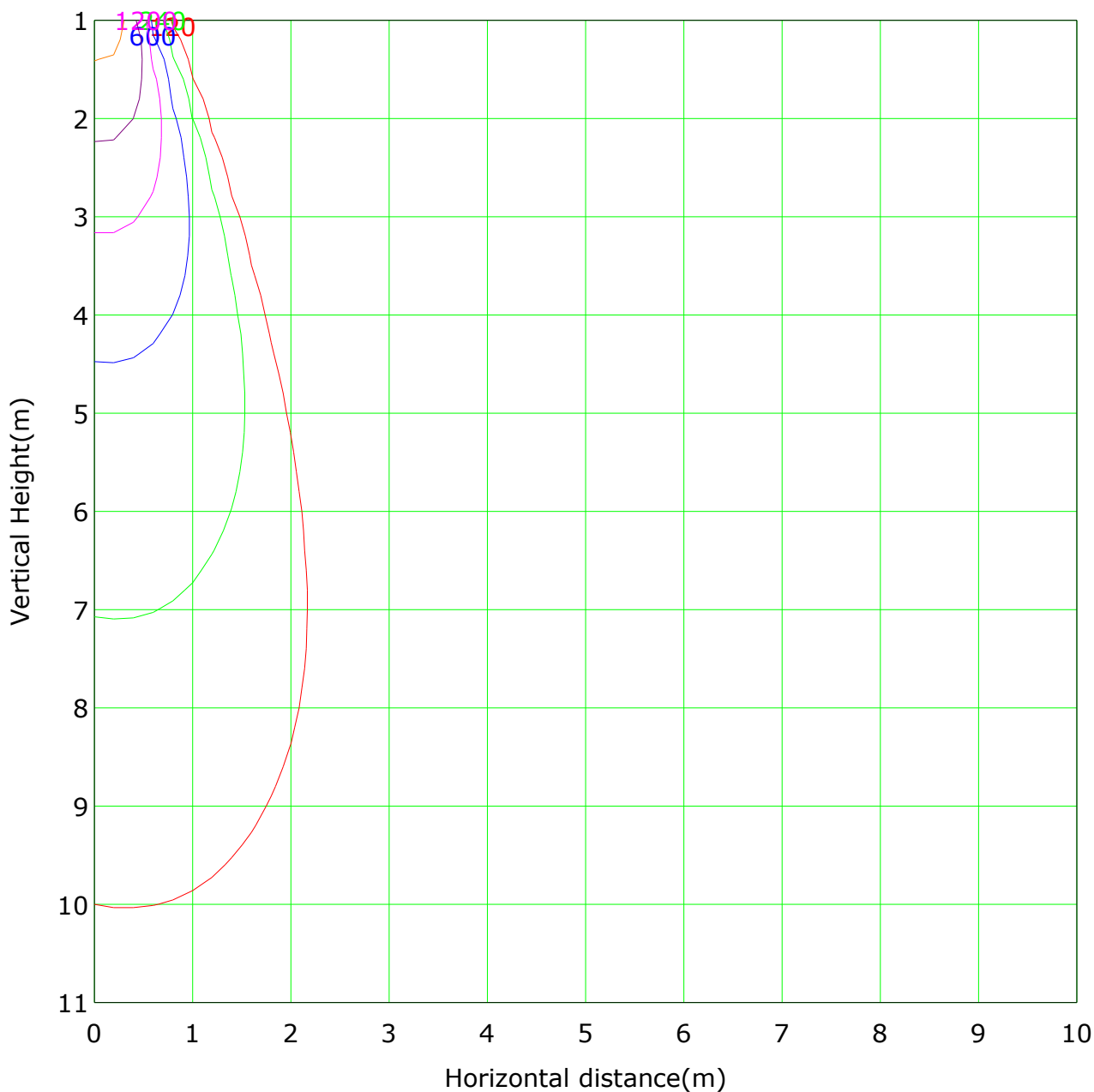
Illuminance at a Distance



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:

Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 12004.5 lx

(1%): 120.0 lx	(2%): 240.1 lx
(5%): 600.2 lx	(10%): 1200.4 lx
(20%): 2400.9 lx	(50%): 6002.2 lx
(100%): 12004.5 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	16.4	17.1	16.7	17.2	17.4	15.8	16.5	16.1	16.6	16.8
3H	16.3	16.9	16.6	17.1	17.3	15.7	16.3	16.0	16.5	16.7
4H	16.2	16.8	16.5	17.0	17.3	15.6	16.2	15.9	16.4	16.7
6H	16.1	16.6	16.5	16.9	17.2	15.5	16.0	15.9	16.3	16.6
8H	16.1	16.6	16.4	16.9	17.2	15.5	16.0	15.8	16.3	16.6
12H	16.1	16.5	16.4	16.8	17.1	15.5	15.9	15.8	16.2	16.5
X=4H Y=2H	16.3	16.8	16.6	17.1	17.3	15.7	16.2	16.0	16.5	16.7
3H	16.1	16.6	16.4	16.9	17.2	15.5	16.0	15.9	16.3	16.6
4H	16.0	16.4	16.4	16.8	17.1	15.4	15.8	15.8	16.2	16.5
6H	15.9	16.3	16.3	16.7	17.0	15.3	15.7	15.7	16.1	16.5
8H	15.9	16.2	16.3	16.6	17.0	15.3	15.6	15.7	16.0	16.4
12H	15.8	16.1	16.3	16.5	17.0	15.2	15.5	15.7	16.0	16.4
X=8H Y=4H	15.9	16.2	16.3	16.6	17.0	15.3	15.6	15.7	16.0	16.4
6H	15.8	16.1	16.2	16.5	16.9	15.2	15.5	15.6	15.9	16.3
8H	15.7	16.0	16.2	16.4	16.9	15.1	15.4	15.6	15.8	16.3
12H	15.7	15.9	16.2	16.4	16.9	15.1	15.3	15.6	15.8	16.3
X=12H Y=4H	15.8	16.1	16.3	16.5	17.0	15.2	15.5	15.7	16.0	16.4
6H	15.7	16.0	16.2	16.4	16.9	15.1	15.4	15.6	15.8	16.3
8H	15.7	15.9	16.2	16.4	16.9	15.1	15.3	15.6	15.8	16.3
Variations with the observer position at spacings:										
S=1.0H	+4.4/-5.0					+4.7/-5.9				
S=1.5H	+7.1/-16.1					+7.3/-26.0				
S=2.0H	+9.1/-1.\$					+9.2/-1.\$				

Calculate in accordance with CIE Pub.117. The table is revised with 3950lm ($8\log(F/F_0) = 4.8$).

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	11909.6	11.4	11.4	0.29	0.29
1.0-2.0	11856.2	34.0	45.4	0.86	1.15
2.0-3.0	11750.0	56.2	101.6	1.42	2.57
3.0-4.0	11596.8	77.6	179.3	1.97	4.54
4.0-5.0	11403.1	98.1	277.4	2.48	7.02
5.0-6.0	11151.9	117.2	394.6	2.97	9.99
6.0-7.0	10853.4	134.7	529.3	3.41	13.40
7.0-8.0	10507.5	150.4	679.7	3.81	17.21
8.0-9.0	10120.2	164.0	843.8	4.15	21.36
9.0-10.0	9710.7	175.8	1019.5	4.45	25.81
10.0-11.0	9240.6	184.7	1204.2	4.68	30.49
11.0-12.0	8717.0	190.6	1394.8	4.82	35.31
12.0-13.0	8163.5	193.8	1588.5	4.91	40.22
13.0-14.0	7536.9	192.9	1781.5	4.88	45.10
14.0-15.0	6867.9	188.6	1970.0	4.77	49.87
15.0-16.0	6165.6	180.7	2150.7	4.57	54.45
16.0-17.0	5449.0	169.7	2320.4	4.30	58.75
17.0-18.0	4777.4	157.5	2478.0	3.99	62.73
18.0-19.0	4098.4	142.6	2620.6	3.61	66.34
19.0-20.0	3461.5	126.7	2747.3	3.21	69.55
20.0-21.0	2918.4	112.1	2859.4	2.84	72.39
21.0-22.0	2415.4	97.1	2956.4	2.46	74.85
22.0-23.0	1983.0	83.2	3039.7	2.11	76.95
23.0-24.0	1627.2	71.2	3110.8	1.80	78.75
24.0-25.0	1334.8	60.7	3171.5	1.54	80.29
25.0-26.0	1108.5	52.3	3223.8	1.32	81.62
26.0-27.0	916.3	44.8	3268.7	1.14	82.75
27.0-28.0	761.2	38.5	3307.2	0.98	83.73
28.0-29.0	640.4	33.5	3340.7	0.85	84.58
29.0-30.0	537.7	29.0	3369.8	0.74	85.31
30.0-31.0	453.0	25.2	3395.0	0.64	85.95
31.0-32.0	384.8	22.1	3417.0	0.56	86.51
32.0-33.0	327.3	19.3	3436.3	0.49	87.00
33.0-34.0	281.4	17.0	3453.3	0.43	87.43
34.0-35.0	242.0	15.0	3468.4	0.38	87.81
35.0-36.0	208.8	13.3	3481.7	0.34	88.14

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	182.0	11.9	3493.6	0.30	88.44
37.0-38.0	158.4	10.6	3504.1	0.27	88.71
38.0-39.0	138.7	9.5	3513.6	0.24	88.95
39.0-40.0	122.3	8.5	3522.1	0.22	89.17
40.0-41.0	108.2	7.7	3529.8	0.20	89.36
41.0-42.0	96.7	7.0	3536.9	0.18	89.54
42.0-43.0	86.5	6.4	3543.3	0.16	89.70
43.0-44.0	78.0	5.9	3549.1	0.15	89.85
44.0-45.0	70.9	5.5	3554.6	0.14	89.99
45.0-46.0	64.4	5.0	3559.6	0.13	90.12
46.0-47.0	58.7	4.7	3564.3	0.12	90.24
47.0-48.0	54.1	4.4	3568.7	0.11	90.35
48.0-49.0	49.7	4.1	3572.8	0.10	90.45
49.0-50.0	45.5	3.8	3576.6	0.10	90.55
50.0-51.0	41.3	3.5	3580.0	0.09	90.63
51.0-52.0	37.2	3.2	3583.2	0.08	90.71
52.0-53.0	33.4	2.9	3586.1	0.07	90.79
53.0-54.0	29.2	2.6	3588.7	0.07	90.85
54.0-55.0	25.4	2.3	3591.0	0.06	90.91
55.0-56.0	22.2	2.0	3593.0	0.05	90.96
56.0-57.0	18.8	1.7	3594.7	0.04	91.01
57.0-58.0	15.1	1.4	3596.1	0.04	91.04
58.0-59.0	11.4	1.1	3597.2	0.03	91.07
59.0-60.0	8.0	0.8	3597.9	0.02	91.09
60.0-61.0	5.2	0.5	3598.4	0.01	91.10
61.0-62.0	3.2	0.3	3598.7	0.01	91.11
62.0-63.0	1.9	0.2	3598.9	0.00	91.11
63.0-64.0	0.9	0.1	3599.0	0.00	91.11
64.0-65.0	0.2	0.0	3599.0	0.00	91.11
65.0-66.0	0.0	0.0	3599.0	0.00	91.11
66.0-67.0	0.0	0.0	3599.0	0.00	91.11
67.0-68.0	0.0	0.0	3599.0	0.00	91.11
68.0-69.0	0.0	0.0	3599.0	0.00	91.11
69.0-70.0	0.0	0.0	3599.0	0.00	91.11
70.0-71.0	0.0	0.0	3599.0	0.00	91.11
71.0-72.0	0.0	0.0	3599.0	0.00	91.11

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	3599.0	0.00	91.11
73.0-74.0	0.0	0.0	3599.0	0.00	91.11
74.0-75.0	0.0	0.0	3599.0	0.00	91.11
75.0-76.0	0.0	0.0	3599.0	0.00	91.11
76.0-77.0	0.0	0.0	3599.0	0.00	91.11
77.0-78.0	0.0	0.0	3599.0	0.00	91.11
78.0-79.0	0.0	0.0	3599.0	0.00	91.11
79.0-80.0	0.0	0.0	3599.0	0.00	91.11
80.0-81.0	0.0	0.0	3599.0	0.00	91.11
81.0-82.0	0.0	0.0	3599.0	0.00	91.11
82.0-83.0	0.0	0.0	3599.0	0.00	91.11
83.0-84.0	0.0	0.0	3599.0	0.00	91.11
84.0-85.0	0.0	0.0	3599.0	0.00	91.11
85.0-86.0	0.0	0.0	3599.0	0.00	91.11
86.0-87.0	0.0	0.0	3599.0	0.00	91.11
87.0-88.0	0.0	0.0	3599.0	0.00	91.11
88.0-89.0	0.0	0.0	3599.0	0.00	91.11
89.0-90.0	0.0	0.0	3599.0	0.00	91.11
90.0-91.0	0.0	0.0	3599.0	0.00	91.11
91.0-92.0	0.0	0.0	3599.0	0.00	91.11
92.0-93.0	0.0	0.0	3599.0	0.00	91.11
93.0-94.0	0.0	0.0	3599.0	0.00	91.11
94.0-95.0	0.0	0.0	3599.0	0.00	91.11
95.0-96.0	0.0	0.0	3599.0	0.00	91.11
96.0-97.0	0.0	0.0	3599.0	0.00	91.11
97.0-98.0	0.0	0.0	3599.0	0.00	91.11
98.0-99.0	0.0	0.0	3599.0	0.00	91.11
99.0-100.0	0.0	0.0	3599.0	0.00	91.11
100.0-101.0	0.0	0.0	3599.0	0.00	91.11
101.0-102.0	0.0	0.0	3599.0	0.00	91.11
102.0-103.0	0.0	0.0	3599.0	0.00	91.11
103.0-104.0	0.0	0.0	3599.0	0.00	91.11
104.0-105.0	0.0	0.0	3599.0	0.00	91.11
105.0-106.0	0.0	0.0	3599.0	0.00	91.11
106.0-107.0	0.0	0.0	3599.0	0.00	91.11
107.0-108.0	0.0	0.0	3599.0	0.00	91.11

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	3599.0	0.00	91.11
109.0-110.0	0.0	0.0	3599.0	0.00	91.11
110.0-111.0	0.0	0.0	3599.0	0.00	91.11
111.0-112.0	0.0	0.0	3599.0	0.00	91.11
112.0-113.0	0.0	0.0	3599.0	0.00	91.11
113.0-114.0	0.0	0.0	3599.0	0.00	91.11
114.0-115.0	0.0	0.0	3599.0	0.00	91.11
115.0-116.0	0.0	0.0	3599.0	0.00	91.11
116.0-117.0	0.0	0.0	3599.0	0.00	91.11
117.0-118.0	0.0	0.0	3599.0	0.00	91.11
118.0-119.0	0.0	0.0	3599.0	0.00	91.11
119.0-120.0	0.0	0.0	3599.0	0.00	91.11
120.0-121.0	0.0	0.0	3599.0	0.00	91.11
121.0-122.0	0.0	0.0	3599.0	0.00	91.11
122.0-123.0	0.0	0.0	3599.0	0.00	91.11
123.0-124.0	0.0	0.0	3599.0	0.00	91.11
124.0-125.0	0.0	0.0	3599.0	0.00	91.11
125.0-126.0	0.0	0.0	3599.0	0.00	91.11
126.0-127.0	0.0	0.0	3599.0	0.00	91.11
127.0-128.0	0.0	0.0	3599.0	0.00	91.11
128.0-129.0	0.0	0.0	3599.0	0.00	91.11
129.0-130.0	0.0	0.0	3599.0	0.00	91.11
130.0-131.0	0.0	0.0	3599.0	0.00	91.11
131.0-132.0	0.0	0.0	3599.0	0.00	91.11
132.0-133.0	0.0	0.0	3599.0	0.00	91.11
133.0-134.0	0.0	0.0	3599.0	0.00	91.11
134.0-135.0	0.0	0.0	3599.0	0.00	91.11
135.0-136.0	0.0	0.0	3599.0	0.00	91.11
136.0-137.0	0.0	0.0	3599.0	0.00	91.11
137.0-138.0	0.0	0.0	3599.0	0.00	91.11
138.0-139.0	0.0	0.0	3599.0	0.00	91.11
139.0-140.0	0.0	0.0	3599.0	0.00	91.11
140.0-141.0	0.0	0.0	3599.0	0.00	91.11
141.0-142.0	0.0	0.0	3599.0	0.00	91.11
142.0-143.0	0.0	0.0	3599.0	0.00	91.11
143.0-144.0	0.0	0.0	3599.0	0.00	91.11

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	3599.0	0.00	91.11
145.0-146.0	0.0	0.0	3599.0	0.00	91.11
146.0-147.0	0.0	0.0	3599.0	0.00	91.11
147.0-148.0	0.0	0.0	3599.0	0.00	91.11
148.0-149.0	0.0	0.0	3599.0	0.00	91.11
149.0-150.0	0.0	0.0	3599.0	0.00	91.11
150.0-151.0	0.0	0.0	3599.0	0.00	91.11
151.0-152.0	0.0	0.0	3599.0	0.00	91.11
152.0-153.0	0.0	0.0	3599.0	0.00	91.11
153.0-154.0	0.0	0.0	3599.0	0.00	91.11
154.0-155.0	0.0	0.0	3599.0	0.00	91.11
155.0-156.0	0.0	0.0	3599.0	0.00	91.11
156.0-157.0	0.0	0.0	3599.0	0.00	91.11
157.0-158.0	0.0	0.0	3599.0	0.00	91.11
158.0-159.0	0.0	0.0	3599.0	0.00	91.11
159.0-160.0	0.0	0.0	3599.0	0.00	91.11
160.0-161.0	0.0	0.0	3599.0	0.00	91.11
161.0-162.0	0.0	0.0	3599.0	0.00	91.11
162.0-163.0	0.0	0.0	3599.0	0.00	91.11
163.0-164.0	0.0	0.0	3599.0	0.00	91.11
164.0-165.0	0.0	0.0	3599.0	0.00	91.11
165.0-166.0	0.0	0.0	3599.0	0.00	91.11
166.0-167.0	0.0	0.0	3599.0	0.00	91.11
167.0-168.0	0.0	0.0	3599.0	0.00	91.11
168.0-169.0	0.0	0.0	3599.0	0.00	91.11
169.0-170.0	0.0	0.0	3599.0	0.00	91.11
170.0-171.0	0.0	0.0	3599.0	0.00	91.11
171.0-172.0	0.0	0.0	3599.0	0.00	91.11
172.0-173.0	0.0	0.0	3599.0	0.00	91.11
173.0-174.0	0.0	0.0	3599.0	0.00	91.11
174.0-175.0	0.0	0.0	3599.0	0.00	91.11
175.0-176.0	0.0	0.0	3599.0	0.00	91.11
176.0-177.0	0.0	0.0	3599.0	0.00	91.11
177.0-178.0	0.0	0.0	3599.0	0.00	91.11
178.0-179.0	0.0	0.0	3599.0	0.00	91.11
179.0-180.0	0.0	0.0	3599.0	0.00	91.11

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: