HAVIT COMMERCIAL
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Report No.: 001 Test Time: 2019-04-29 21:01

Luminaire Property

Luminaire Manufacturer:
Luminaire Category: Outdoor lighting
Luminaire Description: HCP-8921501,HCP-8931501(WW)
Lamp Catalog: COB
Luminous Length (mm): -110
Luminous Width (mm): -110
Luminous Height (mm): 0
Voltage: 230V
Current: 0.066A
Power: 14.61W
Power Factor: 0.960

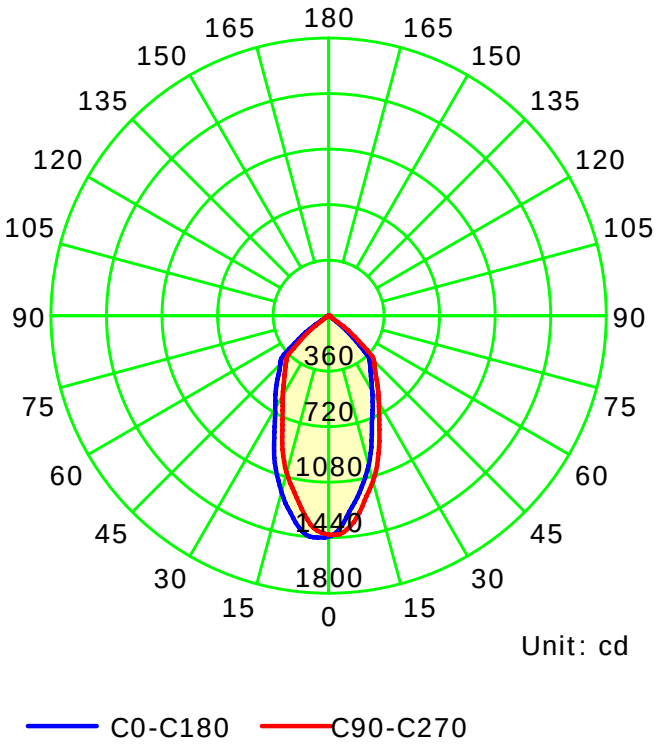
Photometric Results

CIE Class: Direct
Total Rated Lamp Lumens: 1489.2 lm
Measurement Flux: 1489.2 lm
Efficiency: 100%
Downward Ratio: 100%
Upward Ratio: 0%
Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 105.3, 105.4, 105.2, 105.2
Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 52.0, 52.3, 52.3, 51.9
Luminaire Efficacy Rating (LER): 101.98
Central Intensity: 1434.41 cd
Max. Intensity: 1440.75 cd
Pos of Max. Intensity: H180 V3
S/MH(C0/C180): 0.77
S/MH(C90/C270): 0.77

Picture Of Luminaire



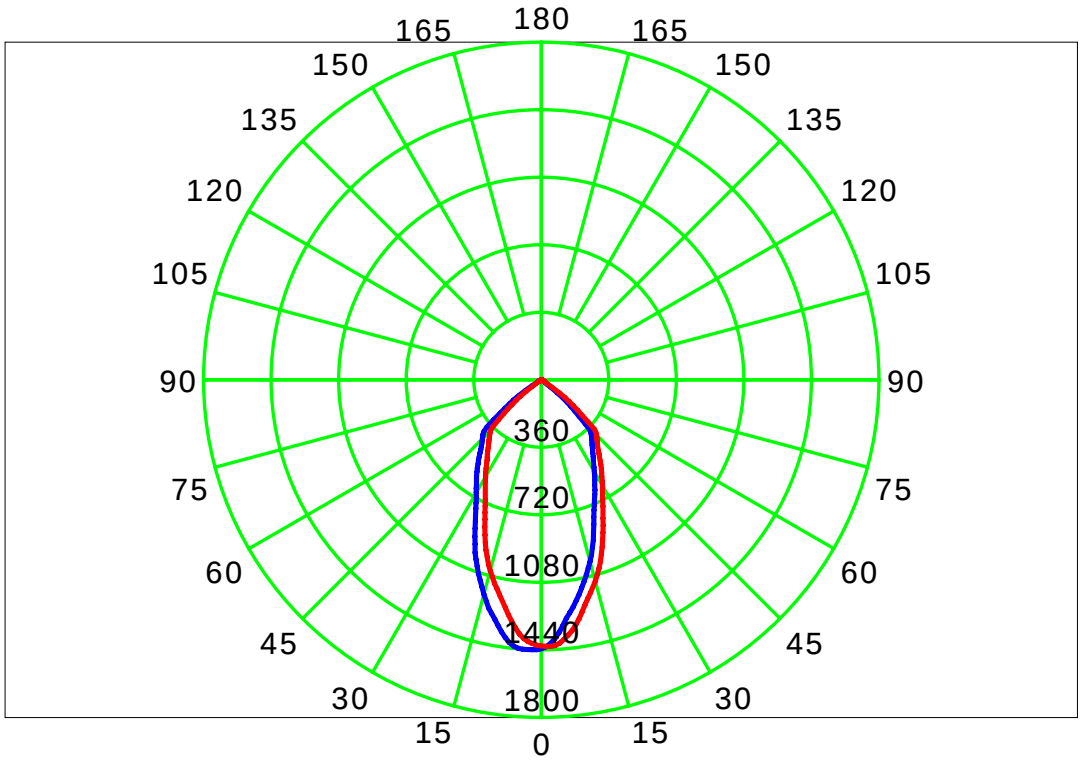
Luminous Intensity Distribution Curve

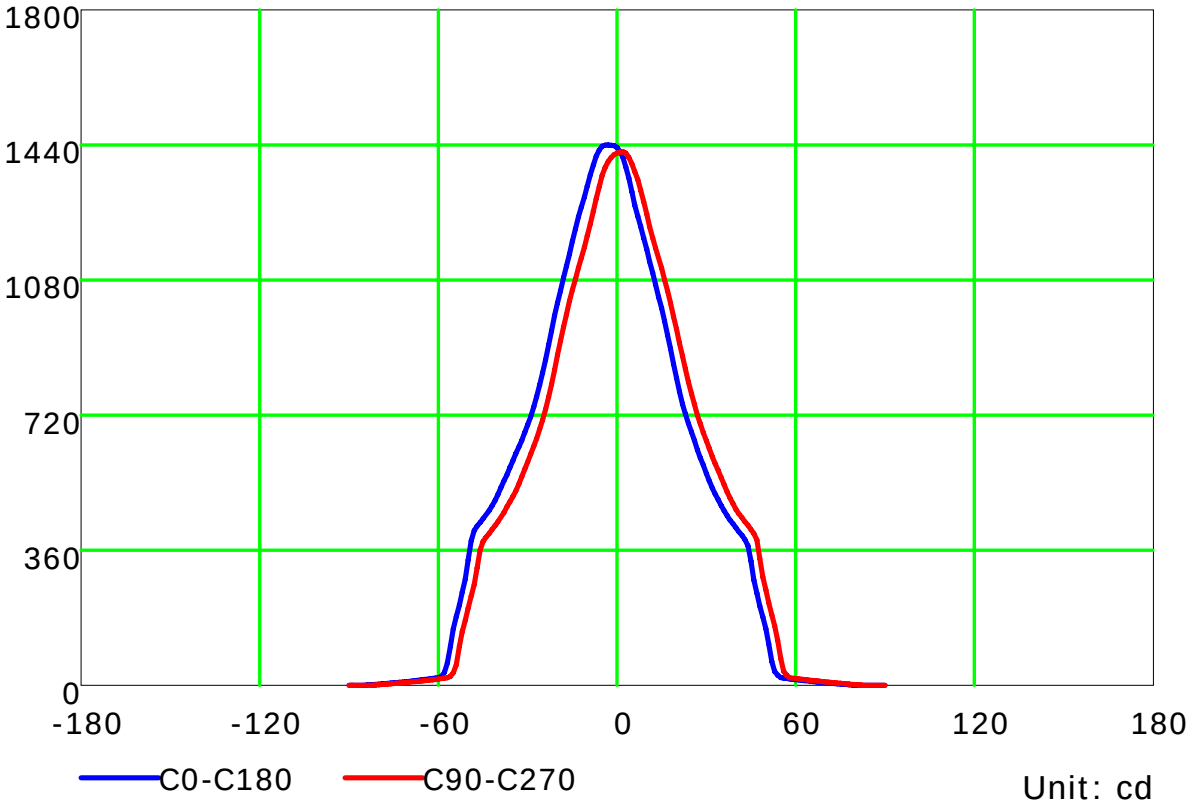


C Plane (°):0.0-360.0: 30.0
Gamma Plane (°):0.0-90.0:1.0
Test Lab:
Test Device: GPM-1600L
Test Type: TYPE C
Distance: 6.583 m
Temperature: 25°C
Humidity:
Operator: DING LI
Inspector:

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Luminous Intensity Distribution Curve



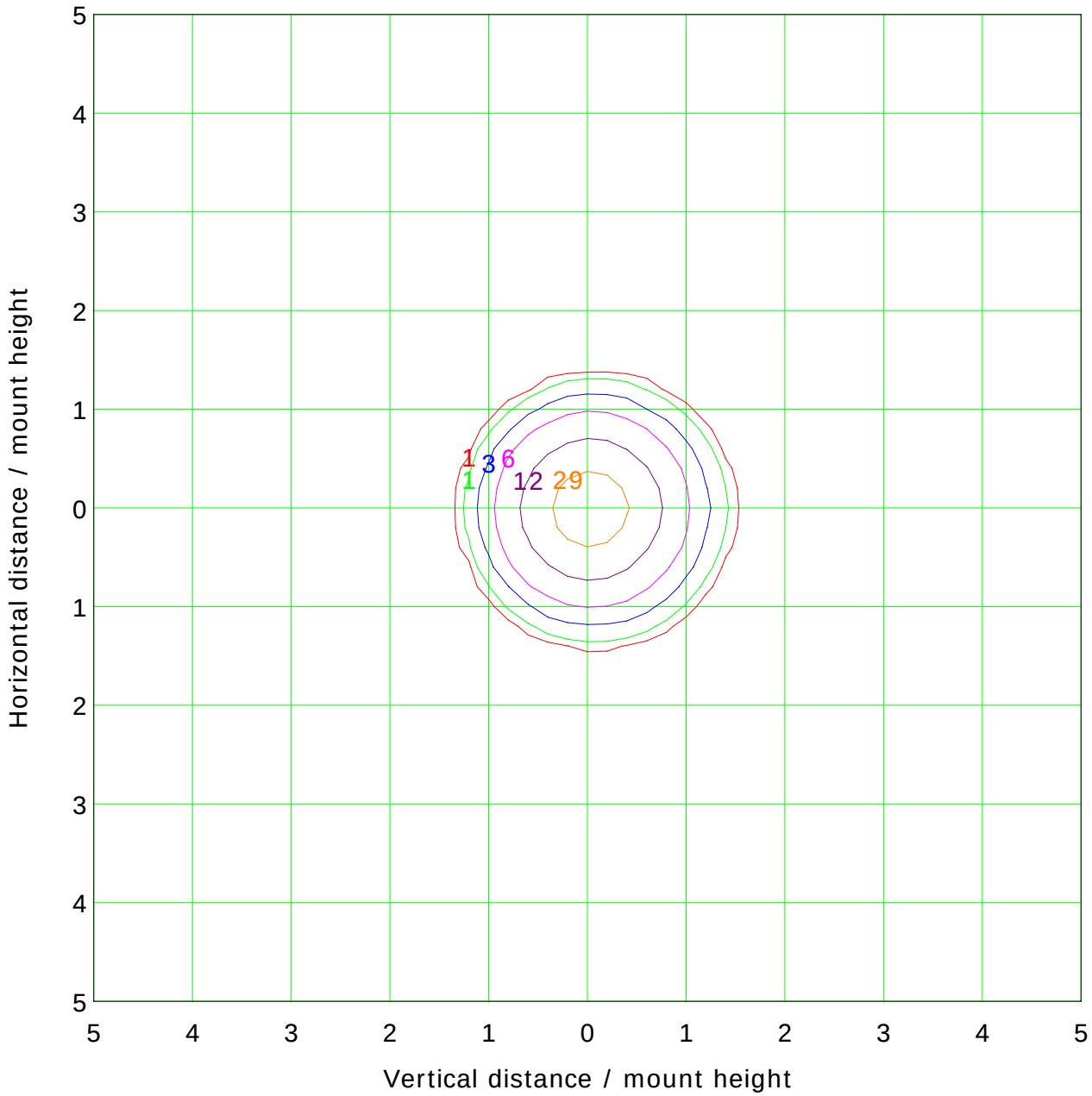


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IsoLux Plot



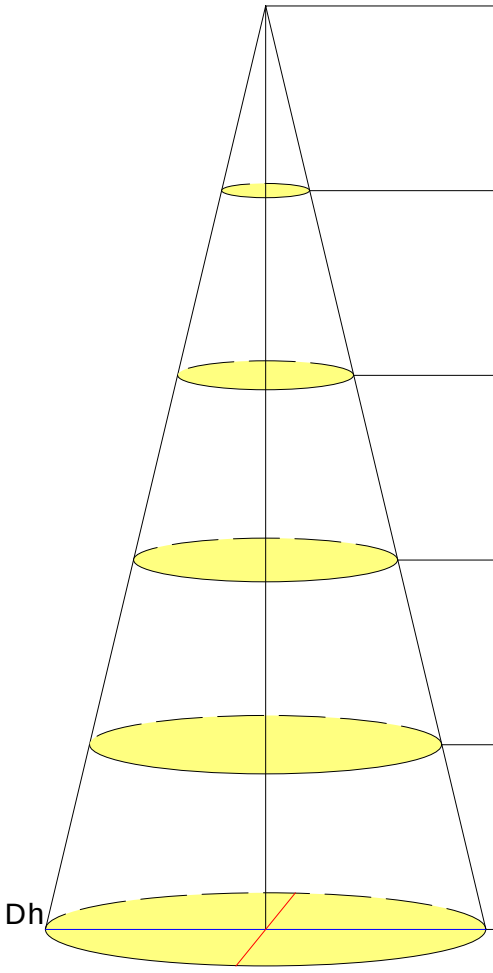
Mounting Height: 5.0m Max Lux(100%): 57.5 lx

(1%): 0.6 lx	(2%): 1.2 lx
(5%): 2.9 lx	(10%): 5.8 lx
(20%): 11.5 lx	(50%): 28.8 lx
(100%): 57.5 lx	

C Plane (°):0.0-360.0: 30.0
Test Lab: NINGBO LED LIGHTING CO.,LTD.
Test Type: TYPE C
Temperature: 25°C
Operator: DING LI

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

Illuminance at a Distance



Dist(m)	Enadir(lx)	Dh/Dv_B(m)	S_B(sq.m)	Eav_B(lx)
1.0	1434.41	0.98/0.98	0.8	553.93
2.0	358.60	1.95/1.96	3.0	138.48
3.0	159.38	2.93/2.94	6.8	61.55
4.0	89.65	3.90/3.92	12.2	34.62
5.0	57.38	4.88/4.91	19.0	22.16

Beam Angle(B): H52.0 V52.3 Field Angle(F): H105.3 V105.4

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

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

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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	21.2	22.3	21.5	22.5	22.7	22.0	23.0	22.3	23.2	23.4
3H	21.1	22.0	21.4	22.3	22.5	21.9	22.8	22.2	23.0	23.3
4H	21.0	21.9	21.4	22.2	22.4	21.8	22.6	22.1	22.9	23.2
6H	21.0	21.8	21.3	22.0	22.3	21.7	22.5	22.1	22.8	23.1
8H	20.9	21.7	21.3	22.0	22.3	21.7	22.4	22.0	22.7	23.1
12H	20.9	21.6	21.3	21.9	22.3	21.6	22.4	22.0	22.7	23.0
X=4H Y=2H	21.0	21.9	21.4	22.2	22.4	21.8	22.6	22.1	22.9	23.2
3H	20.9	21.7	21.3	22.0	22.3	21.7	22.4	22.0	22.7	23.0
4H	20.9	21.5	21.3	21.9	22.2	21.6	22.2	22.0	22.6	22.9
6H	20.8	21.4	21.2	21.7	22.1	21.5	22.1	22.0	22.5	22.9
8H	20.8	21.3	21.2	21.7	22.1	21.5	22.0	21.9	22.4	22.8
12H	20.7	21.2	21.2	21.6	22.0	21.5	21.9	21.9	22.3	22.8
X=8H Y=4H	20.8	21.3	21.2	21.7	22.1	21.5	22.0	21.9	22.4	22.8
6H	20.7	21.1	21.1	21.5	22.0	21.4	21.8	21.9	22.3	22.7
8H	20.6	21.0	21.1	21.5	21.9	21.4	21.7	21.9	22.2	22.7
12H	20.6	20.9	21.1	21.4	21.9	21.3	21.7	21.8	22.1	22.6
X=12H Y=4H	20.7	21.2	21.2	21.6	22.0	21.5	21.9	21.9	22.3	22.8
6H	20.6	21.0	21.1	21.5	21.9	21.4	21.7	21.9	22.2	22.7
8H	20.6	20.9	21.1	21.4	21.9	21.3	21.7	21.8	22.1	22.6
Variations with the observer position at spacings:										
S=1.0H	+2.6/-10.3					+2.5/-9.5				
S=1.5H	+4.1/-11.5					+4.0/-11.0				
S=2.0H	+6.0/-12.5					+6.0/-11.7				

Calculate in accordance with CIE Pub.117. The table is revised with 1489lm (8log(F/F0) = 1.4).

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

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

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Candlepower Table

Unit: cd

G\C	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0
G0.0	1434.4	1425.8	1422.1	1419.2	1416.3	1414.6	1434.4	1425.8	1422.1	1419.2
G1.0	1424.1	1419.3	1420.1	1421.8	1422.6	1418.8	1439.3	1428.9	1421.2	1415.5
G2.0	1407.9	1406.9	1416.3	1422.9	1426.5	1423.2	1440.3	1426.5	1415.3	1407.3
G3.0	1382.2	1387.6	1405.0	1419.1	1427.6	1423.8	1440.8	1421.4	1406.8	1397.1
G4.0	1352.5	1360.7	1386.5	1407.6	1425.0	1422.9	1440.5	1415.2	1395.9	1381.4
G5.0	1316.2	1332.0	1363.6	1390.4	1419.4	1418.2	1437.4	1406.9	1379.3	1360.1
G6.0	1279.9	1297.9	1334.1	1369.8	1404.6	1403.9	1427.5	1391.4	1352.4	1329.7
G7.0	1250.6	1272.1	1306.4	1348.2	1386.4	1385.6	1411.2	1369.8	1323.3	1297.7
G8.0	1223.2	1244.1	1282.7	1319.9	1363.4	1360.2	1387.2	1347.5	1291.5	1264.5
G9.0	1192.3	1217.0	1254.6	1289.6	1332.4	1332.2	1361.0	1319.5	1260.1	1230.3
G10.0	1162.9	1188.6	1225.2	1256.5	1301.5	1302.3	1331.5	1290.3	1233.4	1198.7
G11.0	1129.5	1154.2	1192.9	1222.4	1266.8	1268.7	1301.7	1262.0	1206.0	1168.0
G12.0	1099.8	1122.3	1164.2	1192.8	1236.5	1234.1	1275.4	1235.8	1181.4	1139.5
G13.0	1068.2	1093.1	1136.6	1165.7	1204.9	1203.8	1249.5	1210.3	1156.0	1113.5
G14.0	1034.9	1061.4	1104.8	1138.9	1172.0	1173.6	1216.6	1177.1	1128.4	1082.7
G15.0	1005.5	1033.4	1075.8	1112.0	1143.6	1144.5	1184.1	1145.3	1099.6	1054.4
G16.0	971.4	1000.3	1046.6	1081.6	1112.7	1112.8	1149.8	1114.2	1065.6	1024.9
G17.0	933.7	966.9	1015.5	1051.6	1078.7	1081.4	1117.6	1080.7	1031.8	988.6
G18.0	898.0	931.2	984.8	1020.0	1045.7	1051.6	1087.3	1051.3	999.7	955.7
G19.0	857.0	891.2	947.9	983.3	1008.6	1015.6	1052.3	1016.3	962.2	918.5
G20.0	819.8	852.9	912.2	949.7	976.9	983.5	1019.9	980.6	925.5	880.7
G21.0	783.6	813.9	873.3	912.7	943.6	946.4	986.5	945.3	889.5	840.9
G22.0	750.2	779.8	833.4	878.6	907.6	912.5	945.3	906.0	849.4	802.6
G23.0	723.8	748.8	796.9	844.0	873.2	877.4	908.1	869.2	813.2	769.2
G24.0	698.3	720.2	764.3	809.0	837.4	839.8	868.8	832.7	778.4	736.6
G25.0	675.6	697.8	737.5	778.4	806.8	806.5	833.4	796.8	748.0	707.4
G26.0	654.1	675.4	713.0	750.6	775.0	776.3	801.5	766.0	718.8	683.3
G27.0	627.8	651.5	689.2	720.5	744.3	744.7	770.2	736.0	693.1	658.2
G28.0	607.3	628.8	665.0	698.0	720.8	721.2	742.9	710.9	669.5	637.7
G29.0	587.5	606.3	643.2	673.6	698.5	697.6	716.5	690.1	647.4	617.0
G30.0	565.2	587.2	620.7	652.8	675.7	674.8	694.8	667.2	627.9	595.6
G31.0	545.6	567.5	600.0	632.4	654.5	653.5	674.8	647.8	609.3	577.0
G32.0	526.5	548.0	579.0	610.1	633.7	632.6	653.2	628.8	590.3	556.1
G33.0	510.3	530.1	561.7	591.1	615.3	615.0	635.5	612.0	570.7	536.9
G34.0	495.2	513.6	543.4	573.6	597.5	597.7	618.6	594.1	552.0	518.2
G35.0	479.3	496.1	523.0	553.6	577.5	577.9	598.4	573.9	533.6	503.4
G36.0	465.8	480.8	505.6	535.5	560.7	560.0	581.5	555.0	521.6	489.6

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

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

Candlepower Table (Continue 1)

Unit: cd

G\C	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0
G37.0	452.5	465.2	488.9	515.5	543.5	540.5	560.8	540.7	503.3	476.0
G38.0	440.7	452.3	472.3	499.5	524.5	523.4	545.5	521.8	486.0	461.1
G39.0	430.8	440.8	458.6	484.1	507.4	508.2	527.5	504.6	470.8	448.7
G40.0	419.8	429.1	446.2	468.5	487.8	491.0	509.1	486.7	456.1	436.3
G41.0	409.1	419.1	436.0	457.4	474.5	478.6	492.7	472.4	445.2	425.9
G42.0	400.2	408.9	425.9	447.1	462.5	466.6	478.8	459.6	434.4	415.5
G43.0	388.6	398.4	415.4	436.5	450.4	455.0	465.8	448.1	423.1	404.7
G44.0	372.6	386.1	405.0	426.8	439.4	445.6	455.0	437.2	412.7	395.3
G45.0	331.2	359.8	394.5	415.6	428.6	435.0	444.3	427.1	403.2	383.5
G46.0	280.8	313.5	375.2	404.7	417.5	425.4	434.3	416.0	393.4	361.3
G47.0	245.6	276.9	329.4	387.6	406.8	413.9	424.9	404.4	371.3	313.0
G48.0	211.4	238.1	280.4	338.0	385.6	395.3	412.9	383.8	317.0	268.9
G49.0	182.3	204.8	244.0	288.9	336.5	351.0	385.8	334.0	273.2	238.0
G50.0	151.0	172.9	216.7	254.5	292.9	297.7	334.4	292.8	238.6	206.0
G51.0	110.4	139.3	186.3	220.1	253.9	255.4	283.0	256.1	210.5	173.1
G52.0	63.7	102.8	154.3	188.1	220.6	223.1	248.4	221.3	184.3	143.3
G53.0	37.0	53.9	116.8	158.6	186.9	192.5	213.3	188.3	147.8	103.5
G54.0	27.1	34.8	65.8	119.4	151.6	161.5	183.6	151.6	106.0	54.8
G55.0	20.7	26.1	38.0	71.4	116.9	122.3	150.6	121.3	62.2	33.7
G56.0	19.6	20.8	26.7	37.9	64.3	70.5	103.6	68.8	34.8	24.2
G57.0	18.5	20.0	20.2	27.0	36.4	39.0	59.3	38.4	24.6	20.3
G58.0	17.3	18.8	19.4	20.3	26.4	27.7	34.6	27.2	20.2	19.2
G59.0	16.2	17.5	18.5	19.5	20.2	20.8	23.9	20.6	19.0	18.0
G60.0	15.4	16.5	17.4	18.5	19.5	19.9	20.3	19.8	18.2	17.0
G61.0	14.5	15.6	16.3	17.4	18.4	18.6	19.5	18.6	17.0	15.8
G62.0	13.5	14.6	15.5	16.3	17.0	17.4	18.5	17.4	16.0	14.9
G63.0	12.7	13.4	14.7	15.6	16.1	16.3	17.4	16.3	15.1	14.1
G64.0	11.6	12.7	13.6	14.6	15.1	15.4	16.3	15.5	14.4	13.0
G65.0	10.8	11.7	12.7	13.6	14.3	14.5	15.5	14.7	13.5	12.3
G66.0	10.1	10.7	11.8	12.9	13.4	13.5	14.5	13.8	12.6	11.3
G67.0	9.3	10.1	10.8	12.0	12.7	12.6	13.5	13.0	11.4	10.5
G68.0	8.6	9.1	10.1	11.1	11.6	11.5	12.7	11.8	10.6	9.9
G69.0	7.9	8.4	9.2	10.2	10.7	10.5	11.4	10.8	9.9	9.1
G70.0	7.1	7.7	8.4	9.3	9.8	9.7	10.6	10.1	9.2	8.4
G71.0	6.3	6.8	7.8	8.6	9.0	8.8	9.8	9.3	8.6	7.7
G72.0	5.7	6.1	6.8	7.7	8.1	8.2	8.8	8.6	7.9	6.8
G73.0	5.0	5.6	6.2	6.9	7.5	7.5	8.2	7.9	7.1	6.3

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

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

Candlepower Table (Continue 2)

Unit: cd

G\C	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0
G74.0	4.1	4.6	5.7	6.1	6.5	6.5	7.5	7.2	6.3	5.7
G75.0	3.6	4.1	4.9	5.6	5.9	6.0	6.5	6.3	5.8	5.1
G76.0	3.0	3.4	4.1	4.7	5.4	5.4	6.0	5.8	5.1	4.2
G77.0	2.2	2.7	3.5	4.1	4.4	4.5	5.4	4.8	4.1	3.6
G78.0	1.7	2.0	2.9	3.6	3.9	3.9	4.5	4.1	3.7	3.0
G79.0	1.1	1.5	2.1	2.8	3.3	3.3	3.9	3.7	3.0	2.2
G80.0	0.4	0.9	1.6	2.0	2.5	2.6	3.3	3.0	2.2	1.6
G81.0	0.0	0.2	1.0	1.5	1.9	1.9	2.7	2.1	1.5	1.2
G82.0	0.0	0.0	0.3	0.9	1.3	1.4	1.9	1.5	1.1	0.2
G83.0	0.0	0.0	0.0	0.3	0.8	0.8	1.4	1.2	0.4	0.0
G84.0	0.0	0.0	0.0	0.0	0.1	0.1	0.9	0.4	0.0	0.0
G85.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
G86.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G87.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G88.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G89.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

Candlepower Table (Continue 3)

Unit: cd

G\C	C300.0	C330.0	C360.0							
G0.0	1416.3	1414.6	1434.4							
G1.0	1410.6	1407.9	1424.1							
G2.0	1400.4	1397.7	1407.9							
G3.0	1383.6	1379.2	1382.2							
G4.0	1361.7	1352.3	1352.5							
G5.0	1331.1	1318.4	1316.2							
G6.0	1293.7	1280.5	1279.9							
G7.0	1261.8	1249.3	1250.6							
G8.0	1230.7	1220.9	1223.2							
G9.0	1201.1	1190.8	1192.3							
G10.0	1170.4	1158.7	1162.9							
G11.0	1136.8	1124.5	1129.5							
G12.0	1107.7	1093.3	1099.8							
G13.0	1075.6	1064.0	1068.2							
G14.0	1042.8	1032.8	1034.9							
G15.0	1012.7	1004.1	1005.5							
G16.0	980.4	974.1	971.4							
G17.0	947.0	938.4	933.7							
G18.0	913.3	902.5	898.0							
G19.0	873.9	863.2	857.0							
G20.0	835.2	825.5	819.8							
G21.0	798.9	790.1	783.6							
G22.0	760.2	752.5	750.2							
G23.0	730.4	723.1	723.8							
G24.0	702.0	696.1	698.3							
G25.0	677.4	669.7	675.6							
G26.0	655.4	648.2	654.1							
G27.0	632.1	624.5	627.8							
G28.0	610.7	604.4	607.3							
G29.0	588.7	584.0	587.5							
G30.0	570.9	563.8	565.2							
G31.0	550.9	543.9	545.6							
G32.0	530.9	522.5	526.5							
G33.0	512.2	506.6	510.3							
G34.0	498.2	491.3	495.2							
G35.0	483.4	477.6	479.3							
G36.0	471.5	463.4	465.8							

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

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

Candlepower Table (Continue 4)

Unit: cd

G\C	C300.0	C330.0	C360.0							
G37.0	458.3	450.8	452.5							
G38.0	445.9	437.6	440.7							
G39.0	433.8	428.5	430.8							
G40.0	422.2	417.7	419.8							
G41.0	412.1	408.4	409.1							
G42.0	400.9	398.9	400.2							
G43.0	389.5	387.8	388.6							
G44.0	378.4	376.7	372.6							
G45.0	358.0	354.5	331.2							
G46.0	312.1	304.5	280.8							
G47.0	274.3	262.7	245.6							
G48.0	237.6	226.4	211.4							
G49.0	203.4	198.9	182.3							
G50.0	172.8	168.8	151.0							
G51.0	139.6	132.7	110.4							
G52.0	103.3	87.4	63.7							
G53.0	55.0	49.5	37.0							
G54.0	33.3	31.2	27.1							
G55.0	25.4	23.3	20.7							
G56.0	19.5	19.5	19.6							
G57.0	18.6	18.5	18.5							
G58.0	17.6	17.6	17.3							
G59.0	16.6	16.5	16.2							
G60.0	15.3	15.6	15.4							
G61.0	14.4	14.7	14.5							
G62.0	13.6	13.6	13.5							
G63.0	12.8	12.8	12.7							
G64.0	11.9	11.9	11.6							
G65.0	11.0	11.1	10.8							
G66.0	10.3	10.4	10.1							
G67.0	9.7	9.7	9.3							
G68.0	9.0	8.9	8.6							
G69.0	8.2	8.2	7.9							
G70.0	7.7	7.5	7.1							
G71.0	6.8	6.7	6.3							
G72.0	6.2	5.9	5.7							
G73.0	5.7	5.5	5.0							

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

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector:

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Candlepower Table (Continue 5)

Unit: cd

G\C	C300.0	C330.0	C360.0							
G74.0	5.1	4.7	4.1							
G75.0	4.1	4.0	3.6							
G76.0	3.6	3.3	3.0							
G77.0	3.1	2.7	2.2							
G78.0	2.2	2.0	1.7							
G79.0	1.7	1.4	1.1							
G80.0	1.2	1.0	0.4							
G81.0	0.4	0.3	0.0							
G82.0	0.0	0.0	0.0							
G83.0	0.0	0.0	0.0							
G84.0	0.0	0.0	0.0							
G85.0	0.0	0.0	0.0							
G86.0	0.0	0.0	0.0							
G87.0	0.0	0.0	0.0							
G88.0	0.0	0.0	0.0							
G89.0	0.0	0.0	0.0							
G90.0	0.0	0.0	0.0							

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

Gamma Plane (°):0.0-90.0:1.0
Test Device: GPM-1600L
Distance: 6.583 m
Humidity:
Inspector: