HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel: 02 9381 8383
E-mail:sales@havitcommercial.com.au

Report No.: 001 Test Time: 2019-04-29 22:29

Luminaire Property

Luminaire Manufacturer:
Luminaire Category: Outdoor lighting
Luminaire Description: HCP-8921501,HCP-8931501(CW)
Lamp Catalog: COB Luminous Length (mm): -110
Luminous Width (mm): -110 Luminous Height (mm): 0
Voltage: 230V Current: 0.068A
Power: 15.09W Power Factor: 0.963

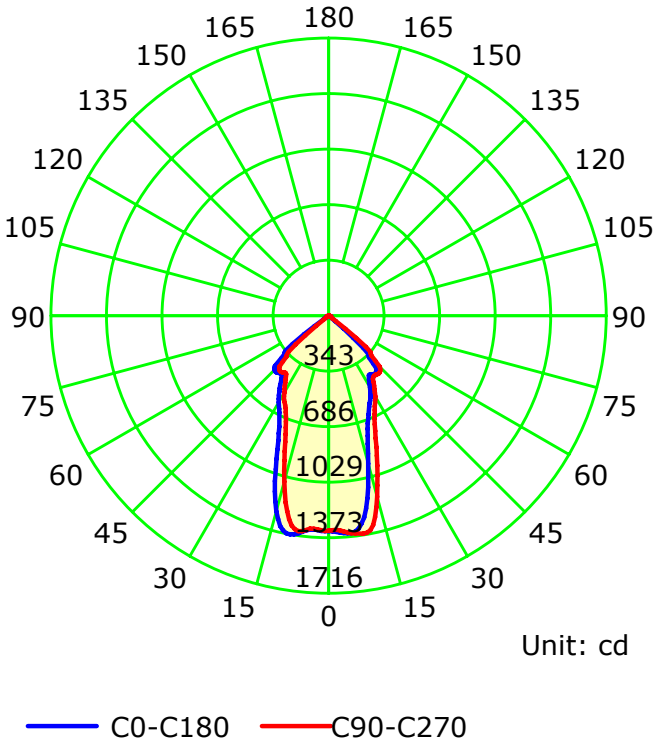
Photometric Results

CIE Class: Direct Total Rated Lamp Lumens: 1418.2 lm
Measurement Flux: 1418.2 lm Efficiency: 100%
Downward Ratio: 100% Upward Ratio: 0%
Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 102.5, 102.6, 102.6, 102.6
Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 47.3, 47.5, 47.6, 47.9
Luminaire Efficacy Rating (LER): 94.03 Central Intensity: 1332.44 cd
Max. Intensity: 1373.05 cd Pos of Max. Intensity: H180 V10
S/MH(C0/C180): 0.74 S/MH(C90/C270): 0.74

Picture Of Luminaire



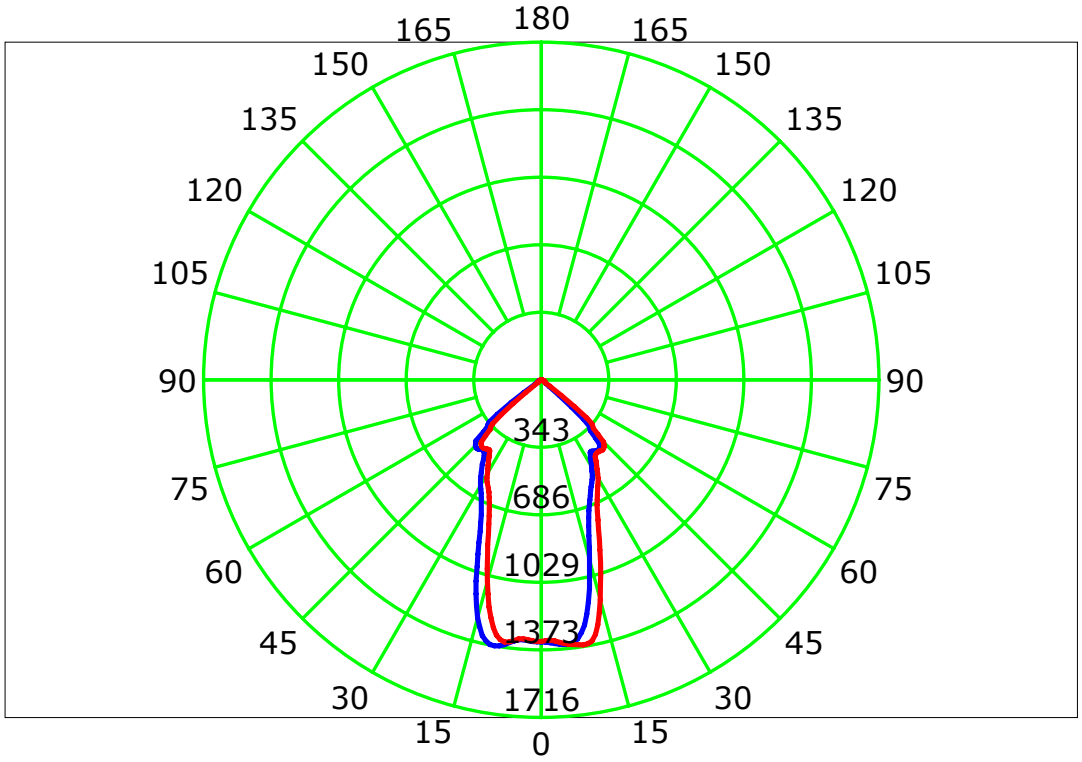
Luminous Intensity Distribution Curve

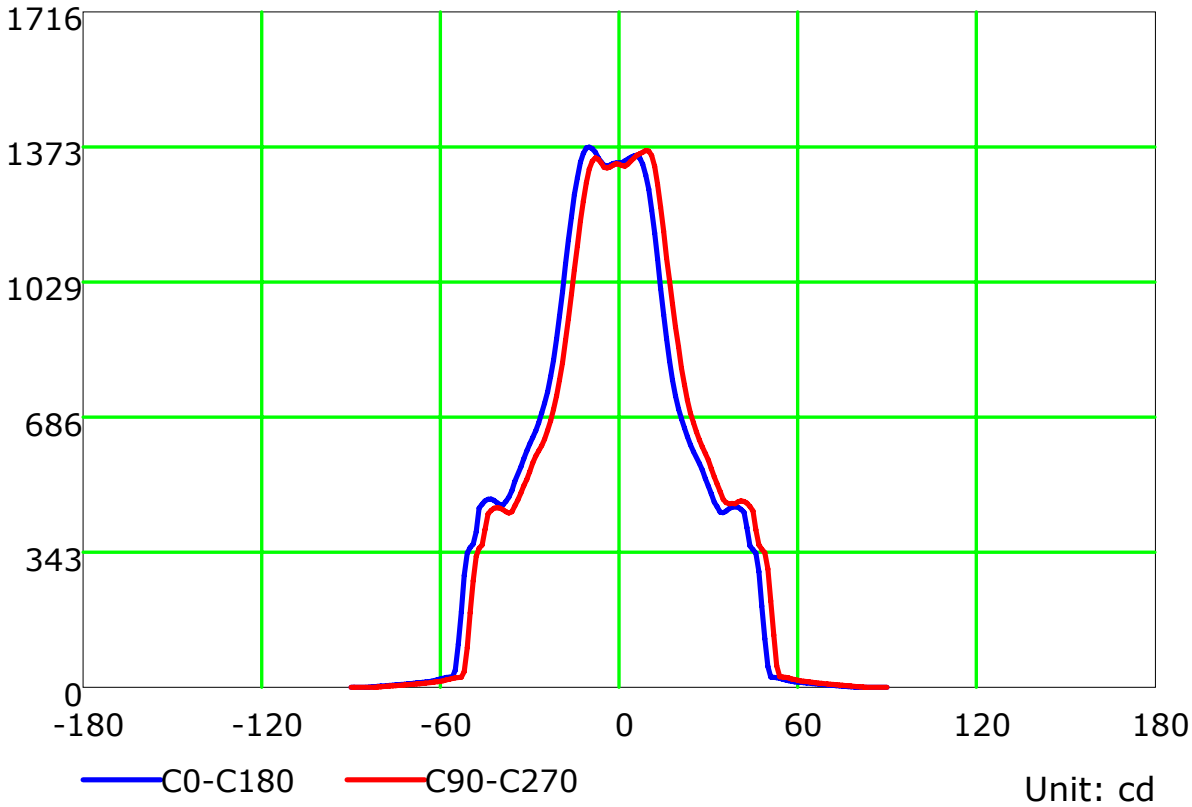


C Plane (°):0.0-360.0: 30.0 Gamma Plane (°):0.0-90.0:1.0
Test Lab: Test Device: GPM-1600L
Test Type: TYPE C Distance: 6.583 m
Temperature: 25°C Humidity:
Operator: DING LI Inspector:

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel: 02 9381 8383
E-mail:sales@havitcommercial.com.au

Luminous Intensity Distribution Curve



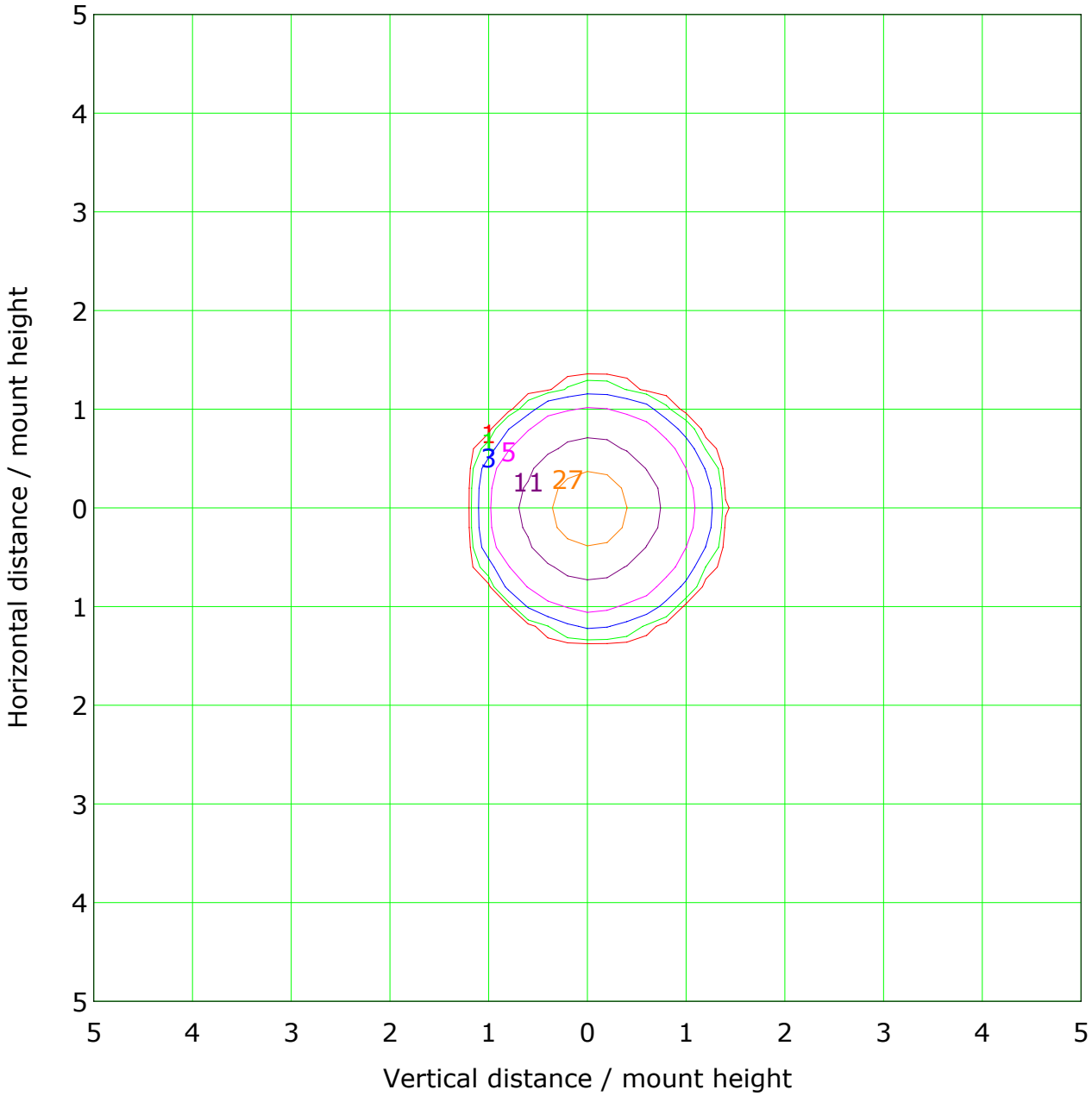


C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature: 25°C
Operator: DING LI

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

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel: 02 9381 8383
E-mail:sales@havitcommercial.com.au

IsoLux Plot



Mounting Height: 5.0m Max Lux(100%): 53.6 lx

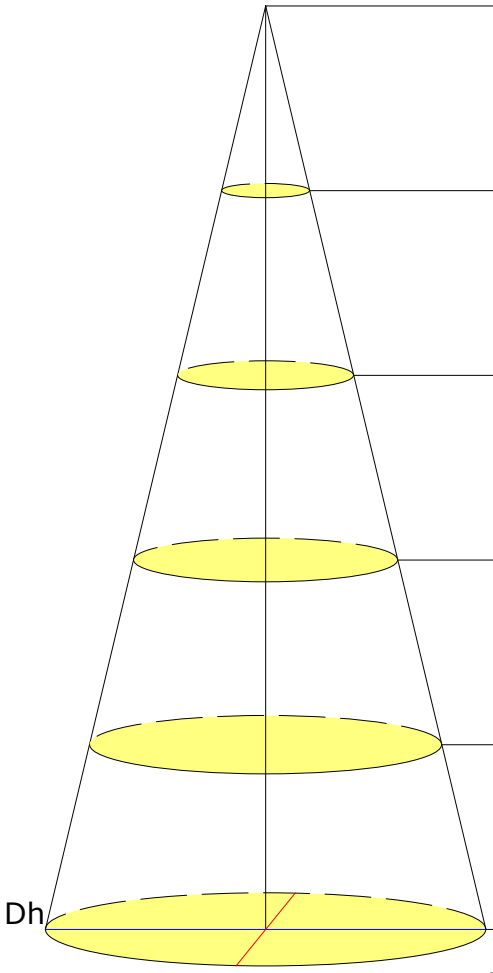
(1%): 0.5 lx
(2%): 1.1 lx
(5%): 2.7 lx
(10%): 5.4 lx
(20%): 10.7 lx
(50%): 26.8 lx
(100%): 53.6 lx

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:

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel: 02 9381 8383
E-mail:sales@havitcommercial.com.au

Illuminance at a Distance



Dist(m)	Enadir(lx)	Dh/Dv_B(m)	S_B(sq.m)	Eav_B(lx)
1.0	1332.44	0.88/0.88	0.6	583.28
2.0	333.11	1.75/1.76	2.5	145.82
3.0	148.05	2.63/2.64	5.6	64.81
4.0	83.28	3.50/3.52	9.9	36.46
5.0	53.30	4.38/4.40	15.5	23.33

Beam Angle(B): H47.3 V47.5 Field Angle(F): H102.5 V102.6

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:

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

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	21.4	22.4	21.7	22.6	22.8	22.3	23.3	22.6	23.5	23.8
3H	21.3	22.2	21.6	22.4	22.7	22.2	23.1	22.5	23.3	23.6
4H	21.2	22.0	21.5	22.3	22.6	22.1	23.0	22.5	23.2	23.5
6H	21.1	21.9	21.5	22.2	22.5	22.1	22.8	22.4	23.1	23.4
8H	21.1	21.8	21.4	22.1	22.4	22.0	22.8	22.4	23.1	23.4
12H	21.0	21.7	21.4	22.1	22.4	22.0	22.7	22.3	23.0	23.3
X=4H Y=2H	21.2	22.0	21.5	22.3	22.6	22.1	22.9	22.4	23.2	23.5
3H	21.1	21.8	21.4	22.1	22.4	22.0	22.7	22.4	23.0	23.3
4H	21.0	21.6	21.4	22.0	22.3	21.9	22.6	22.3	22.9	23.3
6H	20.9	21.5	21.3	21.8	22.2	21.9	22.4	22.3	22.8	23.2
8H	20.9	21.4	21.3	21.8	22.2	21.8	22.3	22.2	22.7	23.1
12H	20.8	21.3	21.3	21.7	22.1	21.8	22.2	22.2	22.6	23.1
X=8H Y=4H	20.9	21.4	21.3	21.8	22.2	21.8	22.3	22.2	22.7	23.1
6H	20.8	21.2	21.3	21.6	22.1	21.7	22.1	22.2	22.6	23.0
8H	20.8	21.1	21.2	21.6	22.0	21.7	22.1	22.2	22.5	23.0
12H	20.7	21.0	21.2	21.5	22.0	21.7	22.0	22.2	22.4	22.9
X=12H Y=4H	20.8	21.3	21.3	21.7	22.1	21.8	22.2	22.2	22.6	23.1
6H	20.8	21.1	21.2	21.6	22.0	21.7	22.1	22.2	22.5	23.0
8H	20.7	21.0	21.2	21.5	22.0	21.7	22.0	22.2	22.4	22.9
Variations with the observer position at spacings:										
S=1.0H	+3.3/-11.1					+3.0/-10.9				
S=1.5H	+4.8/-12.2					+4.3/-11.9				
S=2.0H	+6.8/-13.1					+6.3/-12.7				

Calculate in accordance with CIE Pub.117. The table is revised with 1418lm (8log(F/F0) = 1.2).

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

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	1332.4	1331.7	1330.3	1329.5	1329.7	1330.5	1332.4	1331.7	1330.3	1329.5
G1.0	1333.6	1333.9	1330.0	1325.9	1325.3	1325.8	1332.4	1332.1	1331.1	1330.7
G2.0	1338.1	1338.5	1331.1	1324.5	1321.2	1319.6	1331.5	1332.5	1329.5	1326.8
G3.0	1342.5	1344.2	1339.2	1329.3	1316.9	1315.0	1327.2	1331.1	1326.2	1322.6
G4.0	1347.2	1348.9	1345.2	1337.5	1316.2	1316.3	1324.9	1328.9	1324.5	1320.0
G5.0	1350.4	1352.2	1350.1	1344.9	1320.8	1323.0	1326.7	1332.0	1327.2	1321.3
G6.0	1352.4	1358.2	1354.6	1352.3	1330.5	1329.9	1334.9	1338.7	1337.4	1332.7
G7.0	1344.9	1363.7	1363.2	1356.1	1335.3	1338.5	1345.9	1346.4	1351.5	1342.1
G8.0	1329.6	1357.2	1368.4	1359.8	1338.9	1346.9	1360.2	1354.1	1360.6	1345.5
G9.0	1301.5	1336.9	1360.2	1364.1	1347.2	1353.8	1369.0	1357.8	1360.8	1336.9
G10.0	1265.8	1303.7	1340.4	1362.5	1355.6	1358.5	1373.0	1354.3	1348.7	1317.0
G11.0	1213.4	1257.2	1309.1	1351.7	1353.7	1355.8	1370.7	1342.1	1321.1	1282.6
G12.0	1154.1	1205.9	1266.6	1323.5	1338.9	1343.8	1356.8	1320.4	1285.6	1235.3
G13.0	1088.4	1139.6	1214.6	1277.9	1310.1	1320.2	1334.5	1287.7	1240.0	1185.3
G14.0	1013.4	1064.3	1154.0	1220.4	1265.3	1281.2	1294.9	1241.7	1187.4	1121.3
G15.0	947.1	992.8	1094.3	1158.7	1212.0	1232.4	1252.2	1195.1	1131.0	1061.2
G16.0	886.4	924.0	1026.6	1091.2	1154.7	1171.8	1195.9	1142.7	1062.7	998.9
G17.0	828.8	866.4	955.4	1033.1	1093.0	1109.2	1137.3	1075.1	1000.9	936.7
G18.0	781.1	813.8	895.5	974.6	1036.8	1047.4	1076.4	1011.3	941.5	882.2
G19.0	740.2	769.9	840.7	915.5	976.9	977.9	1004.3	946.4	884.1	824.7
G20.0	707.5	734.5	796.5	865.4	924.6	919.4	943.1	890.7	831.6	780.6
G21.0	682.6	702.8	759.1	811.5	870.1	860.0	885.5	838.3	788.6	740.7
G22.0	659.1	678.4	726.1	769.0	815.3	812.3	831.6	790.7	747.5	706.7
G23.0	637.4	654.9	698.1	729.8	768.5	769.2	790.3	752.3	711.0	677.7
G24.0	616.6	633.7	670.5	696.8	726.5	731.0	750.8	721.9	679.8	653.3
G25.0	599.1	617.7	645.9	672.9	696.4	702.9	722.3	693.5	658.3	630.5
G26.0	584.6	600.0	624.0	650.1	669.8	678.3	697.3	670.0	639.8	614.3
G27.0	569.1	583.5	605.3	628.9	647.3	654.8	672.2	650.8	624.0	601.0
G28.0	553.1	564.9	589.6	611.7	629.7	636.4	652.3	634.6	610.7	588.0
G29.0	530.9	542.7	572.1	594.8	614.0	617.1	634.9	620.5	594.6	570.6
G30.0	511.6	522.5	546.8	577.9	598.3	602.7	618.2	604.6	575.9	547.8
G31.0	492.8	504.9	524.9	556.5	582.9	586.5	601.0	587.5	556.5	528.4
G32.0	470.9	488.6	507.0	534.9	562.0	564.4	580.9	566.5	536.5	512.1
G33.0	459.0	470.9	489.4	516.6	542.8	543.8	560.2	548.2	517.9	493.9
G34.0	445.1	462.6	473.1	497.6	523.2	527.1	541.9	531.7	495.9	476.0
G35.0	443.8	458.2	467.9	477.6	499.0	505.8	523.5	507.3	476.5	461.1
G36.0	448.1	460.3	464.5	469.7	480.7	489.1	500.0	489.1	462.2	446.4

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:

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	454.1	465.8	466.6	466.8	469.8	472.3	483.4	471.4	450.1	443.1
G38.0	457.9	469.5	470.3	467.6	465.8	463.4	472.8	462.5	452.2	446.5
G39.0	459.0	471.0	474.9	466.7	466.6	462.0	463.6	463.3	459.3	451.6
G40.0	457.7	468.1	476.8	471.4	468.3	462.6	464.5	466.0	465.3	455.4
G41.0	452.3	462.3	474.4	474.0	473.2	468.2	469.3	471.6	468.2	456.3
G42.0	445.3	453.2	468.9	472.4	475.7	472.5	475.0	475.8	467.6	455.3
G43.0	406.1	439.6	459.9	468.1	474.8	474.0	478.5	476.3	465.1	449.6
G44.0	359.4	382.1	447.2	459.7	471.5	470.7	478.2	473.1	459.0	441.0
G45.0	349.9	354.5	396.6	448.4	464.6	465.0	474.0	465.6	448.8	401.3
G46.0	341.1	346.1	357.8	400.4	452.8	456.7	465.5	454.7	404.8	361.8
G47.0	293.9	335.4	349.1	361.7	401.7	423.9	455.6	421.4	362.8	353.5
G48.0	206.3	267.7	338.9	351.4	362.6	368.1	395.6	367.0	353.2	333.1
G49.0	123.6	186.8	290.9	342.2	353.8	357.5	364.1	357.4	337.9	270.9
G50.0	52.9	104.0	210.6	301.0	344.8	348.4	355.2	348.1	280.2	189.4
G51.0	26.3	38.1	120.0	219.6	294.5	309.1	341.3	293.6	192.4	101.1
G52.0	25.5	26.3	54.2	132.8	213.0	231.6	284.5	216.0	107.8	40.2
G53.0	24.7	25.6	26.6	55.2	129.7	139.3	191.8	130.3	41.3	25.8
G54.0	23.1	24.8	25.8	26.9	51.3	63.8	109.8	54.2	25.5	24.9
G55.0	20.5	23.2	25.4	26.1	27.7	28.4	43.2	26.4	24.5	24.3
G56.0	19.0	21.1	24.1	25.5	26.8	27.3	26.4	25.2	23.8	22.7
G57.0	17.0	19.7	21.8	24.2	26.1	26.5	26.0	24.2	22.7	20.6
G58.0	15.5	17.4	20.4	21.4	24.2	24.9	25.4	23.2	21.2	19.2
G59.0	14.2	16.0	17.9	20.0	21.4	22.0	23.5	21.3	19.6	16.9
G60.0	13.4	14.8	16.4	18.0	20.1	20.1	21.5	20.2	17.3	15.2
G61.0	12.6	13.9	15.3	16.6	18.0	17.8	19.8	18.5	15.1	14.3
G62.0	11.8	12.9	14.3	15.6	16.5	16.2	17.5	16.3	14.2	13.4
G63.0	11.2	12.0	13.5	14.8	15.5	15.2	15.7	15.1	13.5	12.4
G64.0	10.4	11.3	12.5	13.9	14.5	14.3	14.5	14.1	12.6	11.4
G65.0	9.7	10.6	11.8	12.9	13.6	13.4	13.5	13.2	11.9	10.8
G66.0	9.2	9.7	11.0	11.9	12.6	12.6	12.8	12.5	11.3	10.0
G67.0	8.3	9.1	10.1	11.0	11.8	11.8	12.1	11.8	10.3	9.3
G68.0	7.6	8.1	9.5	10.2	10.8	10.9	11.4	10.9	9.6	8.8
G69.0	6.9	7.5	8.5	9.6	10.1	10.1	10.4	10.1	8.9	8.1
G70.0	6.2	7.0	7.9	8.7	9.3	9.4	9.7	9.4	8.1	7.4
G71.0	5.6	6.1	7.4	8.1	8.4	8.5	9.1	8.6	7.6	6.9
G72.0	5.1	5.6	6.4	7.5	7.9	7.9	8.1	7.9	7.0	6.1
G73.0	4.4	5.2	5.9	6.7	7.3	7.2	7.7	7.3	6.2	5.5

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:

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

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	3.8	4.4	5.5	6.1	6.5	6.3	7.0	6.6	5.8	5.0
G75.0	3.3	3.8	4.8	5.5	6.0	5.9	6.1	6.0	5.3	4.4
G76.0	2.8	3.3	4.1	4.7	5.5	5.4	5.7	5.5	4.7	3.9
G77.0	1.8	2.6	3.6	4.1	4.4	4.4	5.2	4.9	4.0	3.4
G78.0	1.3	1.9	2.8	3.4	4.0	3.9	4.2	4.1	3.4	3.0
G79.0	0.9	1.3	2.0	2.7	3.4	3.5	3.8	3.5	2.9	2.1
G80.0	0.1	0.9	1.4	2.0	2.5	2.8	3.3	2.9	2.0	1.4
G81.0	0.0	0.2	0.9	1.5	1.8	2.0	2.6	2.0	1.4	1.0
G82.0	0.0	0.0	0.1	0.9	1.3	1.3	1.8	1.5	1.0	0.3
G83.0	0.0	0.0	0.0	0.4	0.7	0.9	1.3	1.2	0.4	0.0
G84.0	0.0	0.0	0.0	0.0	0.2	0.3	0.7	0.5	0.0	0.0
G85.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	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	1329.7	1330.5	1332.4							
G1.0	1330.4	1330.7	1333.6							
G2.0	1327.5	1330.4	1338.1							
G3.0	1326.5	1332.3	1342.5							
G4.0	1328.4	1335.4	1347.2							
G5.0	1332.9	1340.9	1350.4							
G6.0	1341.3	1346.2	1352.4							
G7.0	1340.8	1346.2	1344.9							
G8.0	1329.0	1336.1	1329.6							
G9.0	1310.9	1316.1	1301.5							
G10.0	1282.2	1289.1	1265.8							
G11.0	1242.6	1245.4	1213.4							
G12.0	1197.3	1195.1	1154.1							
G13.0	1144.2	1137.2	1088.4							
G14.0	1071.7	1064.4	1013.4							
G15.0	1006.8	991.3	947.1							
G16.0	935.0	925.5	886.4							
G17.0	877.2	862.6	828.8							
G18.0	825.0	812.9	781.1							
G19.0	779.0	770.1	740.2							
G20.0	743.5	734.0	707.5							
G21.0	712.1	704.7	682.6							
G22.0	683.2	676.8	659.1							
G23.0	657.3	654.3	637.4							
G24.0	632.5	633.6	616.6							
G25.0	615.3	613.2	599.1							
G26.0	600.0	596.3	584.6							
G27.0	583.8	579.1	569.1							
G28.0	567.9	564.5	553.1							
G29.0	549.0	543.3	530.9							
G30.0	529.8	519.2	511.6							
G31.0	512.2	498.8	492.8							
G32.0	493.1	482.3	470.9							
G33.0	473.1	464.0	459.0							
G34.0	459.1	449.3	445.1							
G35.0	443.0	439.2	443.8							
G36.0	438.2	438.0	448.1							

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:

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel: 02 9381 8383
E-mail:sales@havitcommercial.com.au

Candlepower Table (Continue 4)

Unit: cd

G\C	C300.0	C330.0	C360.0							
G37.0	440.4	442.6	454.1							
G38.0	445.0	449.1	457.9							
G39.0	449.5	453.3	459.0							
G40.0	452.4	455.4	457.7							
G41.0	452.4	454.6	452.3							
G42.0	448.8	450.4	445.3							
G43.0	442.4	442.4	406.1							
G44.0	405.6	389.6	359.4							
G45.0	360.8	357.0	349.9							
G46.0	351.6	348.1	341.1							
G47.0	338.6	330.7	293.9							
G48.0	273.4	259.9	206.3							
G49.0	192.9	174.0	123.6							
G50.0	108.0	93.8	52.9							
G51.0	40.7	34.7	26.3							
G52.0	24.9	25.4	25.5							
G53.0	24.4	24.8	24.7							
G54.0	24.0	24.0	23.1							
G55.0	22.8	22.2	20.5							
G56.0	20.4	20.2	19.0							
G57.0	19.1	18.3	17.0							
G58.0	16.9	16.2	15.5							
G59.0	14.9	14.5	14.2							
G60.0	13.9	13.5	13.4							
G61.0	12.8	12.7	12.6							
G62.0	12.0	11.9	11.8							
G63.0	11.3	11.4	11.2							
G64.0	10.6	10.7	10.4							
G65.0	9.8	10.0	9.7							
G66.0	9.1	9.2	9.2							
G67.0	8.5	8.6	8.3							
G68.0	7.8	7.9	7.6							
G69.0	7.2	7.3	6.9							
G70.0	6.7	6.8	6.2							
G71.0	6.2	6.1	5.6							
G72.0	5.5	5.5	5.1							
G73.0	5.0	5.0	4.4							

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:

HAVIT COMMERCIAL
http://www.havitcommercial.com.au
Tel：02 9381 8383
E-mail:sales@havitcommercial.com.au

Candlepower Table (Continue 5)

Unit: cd

G\C	C300.0	C330.0	C360.0							
G74.0	4.4	4.3	3.8							
G75.0	3.7	3.7	3.3							
G76.0	3.3	3.2	2.8							
G77.0	2.8	2.7	1.8							
G78.0	1.9	1.9	1.3							
G79.0	1.3	1.3	0.9							
G80.0	0.9	0.9	0.1							
G81.0	0.3	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: