

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P228451

Luminaire Tested: **ISS-AF-450-LED-E1-SLL-8030-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P228451
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29764)-DOWNLIGHT AND
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISS-AF-450-LED-E1-SLL-8030-ULG
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-90° SPILL LIGHT ELIMINATOR LEFT, WITH
UPLIGHT GLOW
Light Source: (16) 3000K CCT, 80 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3465.2 lumens
Efficiency: N/A
Efficacy: 82.5 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B0 - U5 - G1

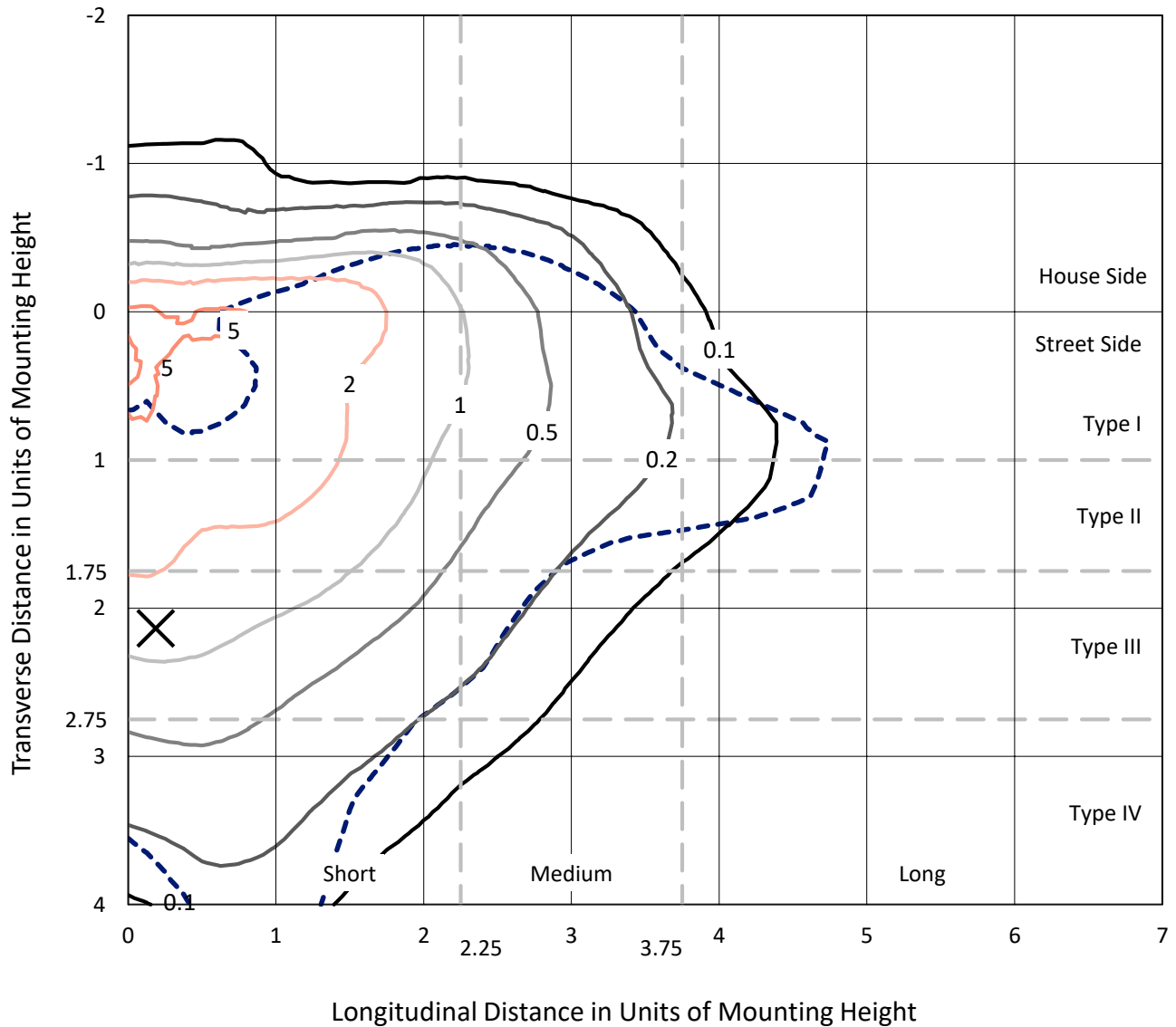
Input Watts (W): 42.01
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P228451
 CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

Iso-Footcandle Lines of Horizontal Illumination

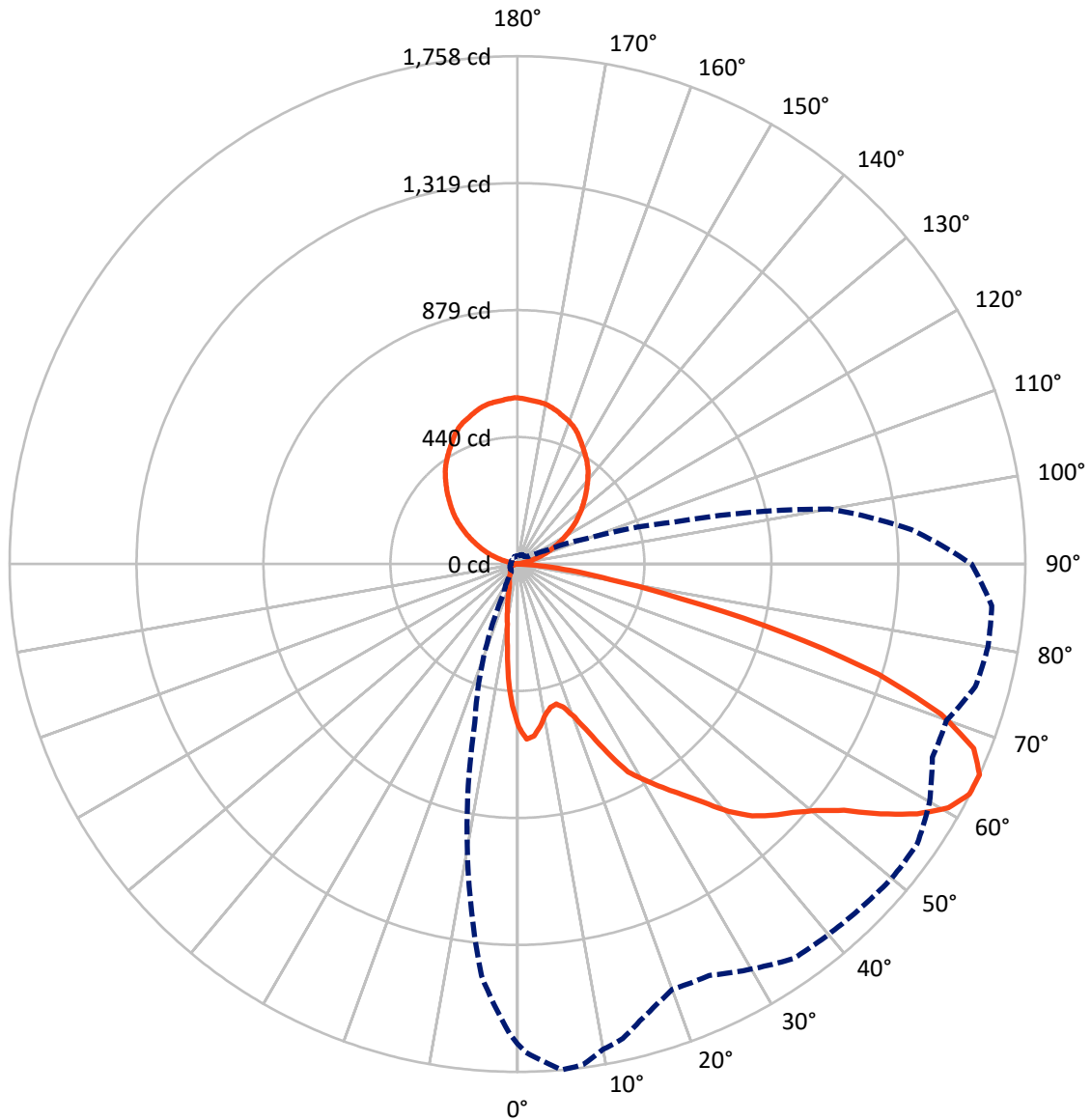
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.6 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P228451
CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P228451

CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

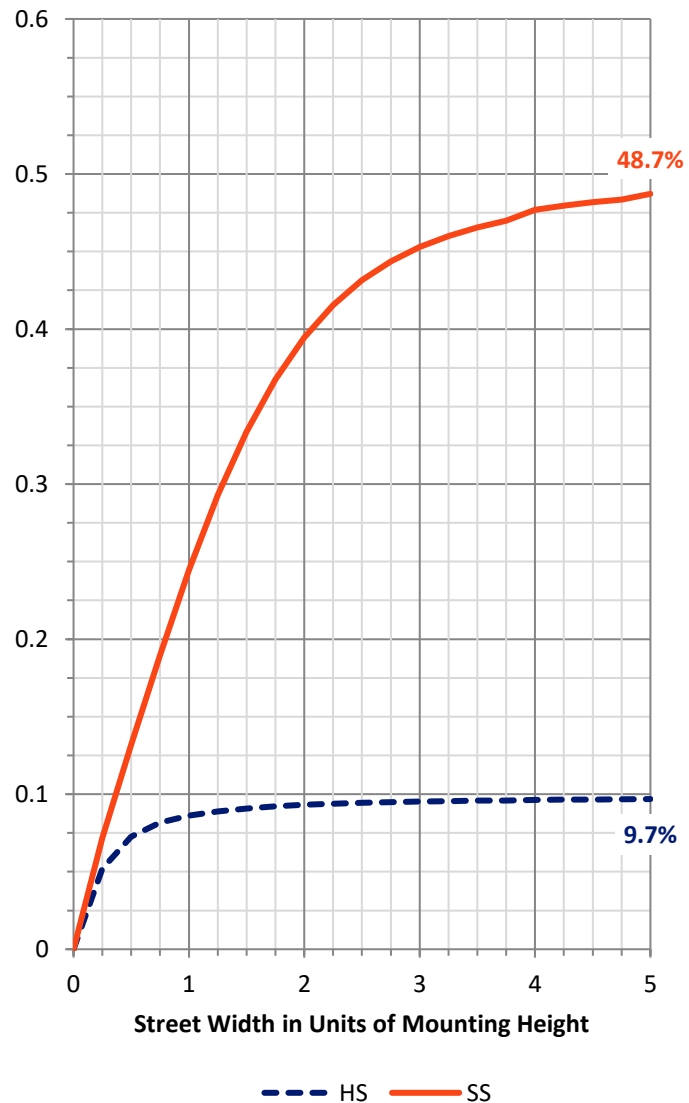
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	339.0	713.1	1052.1
	% Fixture	9.8	20.6	30.4
Street Side	Lumens	1700.0	713.1	2413.0
	% Fixture	49.1	20.6	69.6
Total	Lumens	2039.0	1426.2	3465.2
	% Fixture	58.8	41.2	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.3	1.3
10°-20°	89.3	2.6
20°-30°	129.8	3.7
30°-40°	192.0	5.5
40°-50°	279.7	8.1
50°-60°	419.3	12.1
60°-70°	522.4	15.1
70°-80°	306.0	8.8
80°-90°	57.2	1.7
90°-100°	4.7	0.1
100°-110°	69.0	2.0
110°-120°	153.0	4.4
120°-130°	223.9	6.5
130°-140°	265.6	7.7
140°-150°	269.3	7.8
150°-160°	231.1	6.7
160°-170°	155.1	4.5
170°-180°	54.3	1.6
0°-90°	2039.0	58.8
0°-180°	3465.2	100.0



REPORT NUMBER: P228451

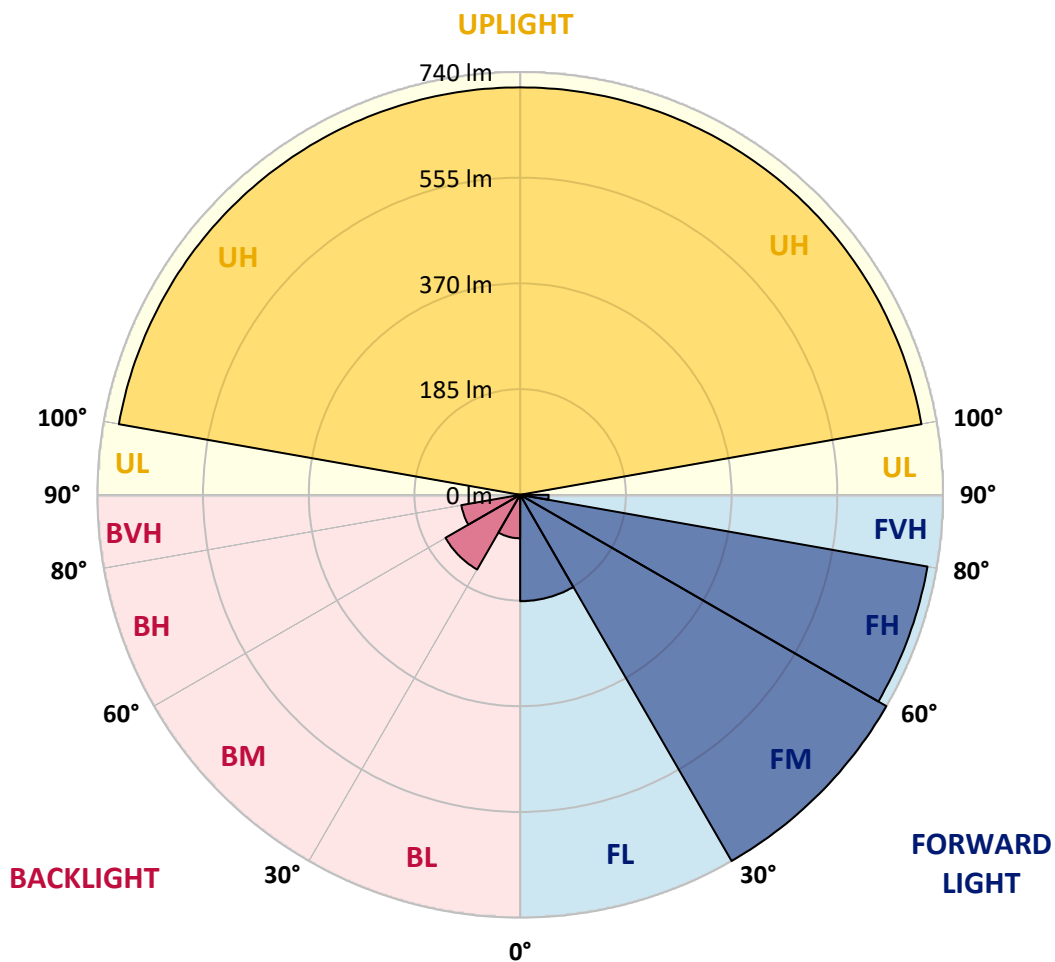
CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	186.3	5.4			
FM (30°-60°)	740.0	21.4			
FH (60°-80°)	723.8	20.9			G1/1800
FVH (80°-90°)	49.9	1.4			G1/100
BL (0°-30°)	76.1	2.2	B0/110		
BM (30°-60°)	150.9	4.4	B0/220		
BH (60°-80°)	104.6	3.0	B0/110		G0/110
BVH (80°-90°)	7.4	0.2			G0/10
UL (90°-100°)	4.7	0.1		U1/10	
UH (100°-180°)	713.1	20.6		U4/1000	

BUG Rating: B0-U5-G1

Type IV Short





REPORT NUMBER: P228451

CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	7.5°	10°	12.5°	15°	17.5°	20°	25°	35°
0°	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3
2.5°	599.0	597.4	607.1	608.7	615.1	615.1	622.4	628.9	631.3	636.9	651.5
5°	579.6	584.5	598.2	611.9	621.6	631.3	641.8	654.7	665.2	682.9	720.1
7.5°	536.8	544.1	567.5	581.2	596.6	613.5	626.4	641.8	657.9	687.8	754.0
10°	494.8	500.5	530.4	547.3	569.1	586.9	605.4	622.4	640.2	677.3	754.0
12.5°	468.2	475.5	509.4	525.5	550.5	569.1	591.7	611.9	632.9	672.4	746.7
15°	462.6	470.6	502.9	523.1	544.9	562.7	582.8	603.8	624.8	663.6	729.8
17.5°	477.9	487.6	522.3	544.9	561.9	582.0	596.6	616.7	630.5	661.1	692.6
20°	514.2	525.5	566.7	588.5	602.2	615.1	626.4	638.5	644.2	651.5	645.8
22.5°	572.3	586.1	632.9	657.9	667.6	677.3	678.1	679.7	675.7	656.3	612.7
25°	655.5	669.2	722.5	746.7	746.7	746.7	737.8	731.4	712.8	676.5	603.8
27.5°	733.0	750.7	814.5	829.9	825.0	817.8	800.8	784.7	758.0	697.5	603.0
30°	791.1	808.9	867.8	879.9	867.8	850.0	823.4	800.0	768.5	708.0	608.7
32.5°	844.4	865.4	921.9	923.5	901.7	881.5	851.7	825.0	791.9	727.3	625.6
35°	900.9	921.9	979.2	967.9	936.4	909.0	878.3	854.9	821.8	752.4	653.1
37.5°	979.2	997.8	1046.2	1019.6	979.2	943.7	910.6	879.9	846.8	786.3	699.1
40°	1055.1	1081.7	1126.1	1083.3	1034.1	986.5	950.1	917.8	881.5	832.3	758.0
42.5°	1126.1	1151.1	1192.3	1137.4	1080.1	1032.5	994.5	959.8	925.1	884.8	829.1
45°	1180.2	1206.0	1240.8	1182.6	1117.2	1068.0	1026.8	996.2	965.5	938.0	918.7
47.5°	1232.7	1258.5	1285.2	1222.2	1157.6	1107.6	1059.1	1030.9	1006.6	992.1	1015.5
50°	1300.5	1318.2	1340.9	1273.0	1204.4	1147.1	1098.7	1076.9	1054.3	1059.1	1137.4
52.5°	1392.5	1407.9	1415.9	1349.7	1273.0	1207.7	1154.4	1124.5	1105.9	1134.2	1266.6
55°	1522.5	1544.3	1526.5	1461.1	1364.3	1290.0	1224.6	1189.1	1177.8	1215.7	1395.7
57.5°	1634.7	1644.4	1631.5	1566.9	1467.6	1384.4	1315.0	1277.9	1265.0	1315.0	1513.6
60°	1683.9	1696.0	1713.8	1658.1	1565.3	1482.9	1423.2	1386.9	1365.1	1423.2	1608.1
62.5°	1692.0	1712.2	1755.8	1727.5	1654.1	1592.7	1538.6	1488.6	1471.6	1516.0	1670.2
65°	1660.5	1691.2	1758.2	1747.7	1706.5	1683.1	1637.9	1599.2	1566.9	1571.7	1667.0
67.5°	1589.5	1625.0	1703.3	1698.5	1703.3	1703.3	1663.8	1631.5	1589.5	1529.7	1544.3
70°	1418.3	1465.2	1555.6	1579.0	1620.2	1620.2	1585.5	1536.2	1487.8	1365.1	1290.8
72.5°	1136.6	1168.1	1306.9	1420.8	1473.2	1452.3	1418.3	1336.0	1229.5	1094.6	993.7
75°	769.3	787.9	958.2	1166.5	1261.7	1244.0	1188.3	1085.8	976.0	825.8	698.3
77.5°	428.7	452.9	580.4	743.5	871.8	869.4	862.1	796.8	709.6	585.3	519.1
80°	251.9	259.9	326.9	445.6	556.2	529.6	511.0	459.3	414.9	358.4	409.3
82.5°	154.2	146.1	185.7	271.2	328.6	317.3	285.8	266.4	245.4	230.1	272.0
85°	42.0	37.9	75.9	113.8	139.7	151.0	151.0	149.3	134.0	100.9	121.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.5	3.0	4.0
100°	8.0	8.0	8.0	8.5	9.0	9.5	10.0	11.0	12.0	14.0	22.0
102.5°	28.0	28.0	28.0	29.0	30.0	31.0	32.0	33.5	35.0	38.0	45.0
105°	54.0	54.0	54.0	54.5	55.0	55.5	56.0	57.2	58.5	61.0	66.0
107.5°	78.0	77.8	77.0	77.8	78.5	79.2	80.0	81.0	82.0	84.0	88.0
110°	101.0	101.2	102.0	102.2	102.5	102.8	103.0	103.8	104.5	106.0	110.0



REPORT NUMBER: P228451

CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

CANDELA DISTRIBUTION (continued):

	0°	1°	5°	7.5°	10°	12.5°	15°	17.5°	20°	25°	35°
112.5°	124.0	124.0	124.0	124.5	125.0	125.5	126.0	126.8	127.5	129.0	132.0
115°	146.0	146.2	147.0	147.5	148.0	148.5	149.0	149.5	150.0	151.0	154.0
117.5°	169.0	169.2	170.0	170.5	171.0	171.5	172.0	172.5	173.0	174.0	177.0
120°	193.0	193.4	195.0	195.2	195.5	195.8	196.0	196.5	197.0	198.0	201.0
122.5°	219.0	219.2	220.0	220.2	220.5	220.8	221.0	221.5	222.0	223.0	226.0
125°	244.0	244.4	246.0	246.2	246.5	246.8	247.0	247.2	247.5	248.0	251.0
127.5°	267.0	267.4	269.0	269.2	269.5	269.8	270.0	270.5	271.0	272.0	274.0
130°	290.0	290.4	292.0	292.2	292.5	292.8	293.0	293.2	293.5	294.0	298.0
132.5°	313.0	313.2	314.0	314.8	315.5	316.2	317.0	317.2	317.5	318.0	321.0
135°	336.0	336.2	337.0	337.5	338.0	338.5	339.0	339.5	340.0	341.0	345.0
137.5°	359.0	359.2	360.0	360.8	361.5	362.2	363.0	363.2	363.5	364.0	367.0
140°	382.0	382.2	383.0	383.5	384.0	384.5	385.0	385.2	385.5	386.0	388.0
142.5°	404.0	404.4	406.0	406.5	407.0	407.5	408.0	407.8	407.5	407.0	410.0
145°	425.0	425.2	426.0	426.5	427.0	427.5	428.0	428.0	428.0	428.0	431.0
147.5°	444.0	444.0	444.0	444.8	445.5	446.2	447.0	447.2	447.5	448.0	452.0
150°	461.0	461.2	462.0	462.5	463.0	463.5	464.0	464.2	464.5	465.0	469.0
152.5°	479.0	479.2	480.0	480.8	481.5	482.2	483.0	482.8	482.5	482.0	485.0
155°	499.0	499.2	500.0	500.5	501.0	501.5	502.0	501.8	501.5	501.0	503.0
157.5°	513.0	513.4	515.0	515.5	516.0	516.5	517.0	516.8	516.5	516.0	519.0
160°	525.0	525.4	527.0	527.5	528.0	528.5	529.0	529.0	529.0	529.0	532.0
162.5°	535.0	535.2	536.0	536.8	537.5	538.2	539.0	538.8	538.5	538.0	541.0
165°	546.0	546.2	547.0	547.5	548.0	548.5	549.0	548.8	548.5	548.0	552.0
167.5°	555.0	555.2	556.0	556.8	557.5	558.2	559.0	558.8	558.5	558.0	561.0
170°	562.0	562.2	563.0	563.8	564.5	565.2	566.0	565.8	565.5	565.0	567.0
172.5°	565.0	565.2	566.0	566.8	567.5	568.2	569.0	568.5	568.0	567.0	569.0
175°	567.0	567.4	569.0	569.2	569.5	569.8	570.0	569.8	569.5	569.0	572.0
177.5°	572.0	572.2	573.0	573.5	574.0	574.5	575.0	574.8	574.5	574.0	578.0
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0



REPORT NUMBER: P228451

CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

CANDELA DISTRIBUTION (continued):

	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
0°	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3
2.5°	657.1	657.9	655.5	661.1	654.7	651.5	641.8	641.8	633.7	627.2	620.0
5°	733.8	738.6	734.6	735.4	722.5	709.6	690.2	678.9	658.7	636.9	614.3
7.5°	785.5	793.5	790.3	776.6	756.4	729.0	696.7	666.0	632.9	597.4	564.3
10°	799.2	808.1	800.8	775.0	741.9	703.1	664.4	623.2	582.8	544.9	509.4
12.5°	779.8	786.3	770.9	742.7	710.4	671.6	631.3	595.8	548.1	507.8	466.6
15°	730.6	726.5	724.9	704.7	682.1	650.6	612.7	576.4	532.0	490.8	447.2
17.5°	677.3	672.4	674.1	666.0	662.8	648.2	620.0	589.3	549.7	499.7	452.9
20°	630.5	625.6	628.0	632.1	644.2	645.0	640.2	620.0	590.9	538.4	481.1
22.5°	590.1	590.9	599.0	610.3	630.5	656.3	676.5	680.5	660.3	599.0	527.1
25°	578.0	574.0	582.8	601.4	635.3	685.4	730.6	753.2	741.9	680.5	592.5
27.5°	574.0	568.3	578.0	602.2	656.3	726.5	791.1	825.0	829.1	766.1	662.8
30°	574.0	571.5	581.2	612.7	670.0	740.3	812.1	863.0	879.1	826.6	724.1
32.5°	581.2	582.8	599.8	640.2	699.1	770.9	845.2	900.1	929.2	889.6	773.4
35°	597.4	600.6	624.8	671.6	735.4	808.1	875.9	931.6	978.4	957.4	819.4
37.5°	632.1	636.9	666.8	714.4	772.5	837.9	904.1	963.9	1031.7	1022.8	867.8
40°	693.4	693.4	723.3	764.5	812.1	862.1	927.5	997.8	1080.9	1093.0	927.5
42.5°	770.9	767.7	787.1	816.9	850.0	892.0	950.9	1029.3	1126.9	1153.6	972.7
45°	877.5	861.3	871.8	879.1	895.2	921.1	973.6	1059.1	1164.1	1198.8	1006.6
47.5°	1002.6	980.0	971.1	957.4	951.8	961.4	1006.6	1082.5	1199.6	1237.5	1061.5
50°	1140.7	1118.9	1095.4	1058.3	1026.0	1016.3	1043.8	1114.0	1237.5	1286.0	1122.1
52.5°	1284.3	1269.0	1238.3	1180.2	1118.9	1084.1	1097.1	1166.5	1298.1	1361.0	1193.9
55°	1415.9	1420.8	1383.6	1315.8	1227.8	1174.6	1189.9	1259.3	1407.9	1482.1	1314.2
57.5°	1557.2	1544.3	1515.2	1445.0	1348.9	1291.6	1298.1	1382.0	1530.6	1587.1	1433.7
60°	1650.8	1650.8	1619.4	1566.1	1474.9	1421.6	1431.3	1508.8	1629.0	1634.7	1487.0
62.5°	1711.4	1720.3	1695.2	1657.3	1568.5	1524.1	1557.2	1612.1	1677.5	1630.7	1460.3
65°	1682.3	1692.0	1689.6	1647.6	1584.6	1581.4	1641.2	1654.1	1648.4	1571.7	1368.3
67.5°	1550.7	1531.4	1530.6	1508.8	1495.8	1562.8	1638.7	1642.8	1547.5	1456.3	1223.0
70°	1300.5	1267.4	1254.5	1260.9	1319.9	1445.0	1553.2	1522.5	1370.7	1292.4	1041.4
72.5°	1002.6	963.1	955.0	980.0	1071.2	1247.2	1394.9	1352.2	1126.9	1035.7	806.4
75°	711.2	694.2	695.0	744.3	842.8	1012.3	1184.2	1180.2	834.7	714.4	555.4
77.5°	517.5	520.7	535.2	554.6	639.3	803.2	964.7	954.2	594.1	490.8	388.3
80°	427.0	431.9	431.9	421.4	443.2	530.4	655.5	699.9	398.0	330.2	271.2
82.5°	306.8	331.0	344.7	327.7	319.7	349.5	410.9	440.0	247.8	208.3	189.7
85°	146.1	167.1	171.9	167.9	192.9	220.4	234.9	240.6	135.6	96.9	124.3
87.5°	0.0	0.0	0.8	6.5	17.8	30.7	30.7	46.8	7.3	2.4	5.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	9.0	11.0	13.0	10.0	7.0	6.0	5.0	4.5	4.0	4.0	4.0
100°	30.0	31.0	32.0	31.0	30.0	28.5	27.0	26.5	26.0	25.0	26.0
102.5°	50.0	50.5	51.0	50.5	50.0	49.0	48.0	48.5	49.0	48.0	49.0
105°	70.0	70.5	71.0	71.0	71.0	70.0	69.0	70.0	71.0	69.0	71.0
107.5°	91.0	92.0	93.0	92.5	92.0	91.5	91.0	91.5	92.0	91.0	92.0
110°	112.0	113.0	114.0	114.0	114.0	113.5	113.0	113.5	114.0	113.0	114.0



REPORT NUMBER: P228451

CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

CANDELA DISTRIBUTION (continued):

	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
112.5°	134.0	135.0	136.0	136.0	136.0	135.5	135.0	136.0	137.0	135.0	137.0
115°	156.0	157.0	158.0	158.0	158.0	158.0	158.0	159.0	160.0	159.0	160.0
117.5°	179.0	179.5	180.0	180.5	181.0	180.5	180.0	181.0	182.0	180.0	182.0
120°	202.0	203.0	204.0	204.0	204.0	204.0	204.0	205.0	206.0	204.0	206.0
122.5°	227.0	227.5	228.0	228.0	228.0	228.5	229.0	231.0	233.0	232.0	233.0
125°	252.0	252.5	253.0	253.5	254.0	254.0	254.0	255.5	257.0	256.0	257.0
127.5°	276.0	277.0	278.0	277.5	277.0	277.5	278.0	279.5	281.0	278.0	281.0
130°	299.0	300.0	301.0	301.0	301.0	301.5	302.0	303.5	305.0	303.0	305.0
132.5°	322.0	323.5	325.0	325.0	325.0	325.5	326.0	327.5	329.0	327.0	329.0
135°	345.0	346.5	348.0	348.0	348.0	348.5	349.0	350.0	351.0	350.0	351.0
137.5°	367.0	368.0	369.0	369.0	369.0	369.5	370.0	372.0	374.0	372.0	374.0
140°	389.0	389.5	390.0	390.0	390.0	391.0	392.0	394.0	396.0	394.0	396.0
142.5°	410.0	411.0	412.0	412.0	412.0	412.5	413.0	414.5	416.0	415.0	416.0
145°	432.0	433.0	434.0	433.5	433.0	433.5	434.0	435.5	437.0	435.0	437.0
147.5°	453.0	453.5	454.0	453.0	452.0	452.5	453.0	454.5	456.0	453.0	456.0
150°	470.0	470.5	471.0	470.0	469.0	469.0	469.0	471.0	473.0	470.0	473.0
152.5°	486.0	486.5	487.0	486.5	486.0	486.0	486.0	487.5	489.0	486.0	489.0
155°	503.0	503.5	504.0	503.5	503.0	503.5	504.0	505.5	507.0	505.0	507.0
157.5°	519.0	519.0	519.0	518.0	517.0	517.5	518.0	520.5	523.0	520.0	523.0
160°	532.0	532.0	532.0	531.0	530.0	530.0	530.0	531.5	533.0	531.0	533.0
162.5°	541.0	541.5	542.0	541.0	540.0	539.0	538.0	539.0	540.0	537.0	540.0
165°	552.0	552.5	553.0	551.5	550.0	549.0	548.0	549.0	550.0	548.0	550.0
167.5°	560.0	560.0	560.0	559.0	558.0	558.5	559.0	561.0	563.0	561.0	563.0
170°	566.0	565.5	565.0	564.5	564.0	565.0	566.0	568.5	571.0	569.0	571.0
172.5°	568.0	568.5	569.0	568.0	567.0	567.5	568.0	569.5	571.0	568.0	571.0
175°	572.0	572.5	573.0	571.5	570.0	569.0	568.0	569.5	571.0	568.0	571.0
177.5°	577.0	577.0	577.0	575.5	574.0	574.0	574.0	575.5	577.0	574.0	577.0
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0



REPORT NUMBER: P228451

CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	115°	120°	125°	130°	135°	145°	155°	165°
0°	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3
2.5°	610.3	599.8	591.7	582.0	574.0	565.9	560.2	548.1	538.4	516.6	511.0
5°	595.8	573.2	557.8	543.3	524.7	511.8	498.1	481.1	462.6	431.1	421.4
7.5°	538.4	510.2	489.2	468.2	444.0	422.2	402.0	379.4	347.1	313.2	300.3
10°	476.3	446.4	417.4	392.3	363.3	339.0	321.3	305.1	279.3	253.5	236.5
12.5°	425.4	391.5	358.4	333.4	318.1	305.9	293.0	280.1	252.7	223.6	203.4
15°	402.0	362.5	333.4	312.4	298.7	284.2	268.8	254.3	222.0	188.1	163.9
17.5°	405.2	360.0	322.9	294.6	276.1	255.9	238.1	219.6	184.1	143.7	121.9
20°	423.0	362.5	311.6	278.5	251.9	226.0	203.4	180.0	136.4	104.9	89.6
22.5°	445.6	370.5	305.1	262.4	229.3	197.0	167.9	140.5	100.9	82.3	75.1
25°	484.4	389.1	303.5	247.8	207.5	168.7	138.8	109.8	81.5	72.7	68.6
27.5°	532.8	410.1	305.1	237.3	188.9	146.1	113.0	91.2	73.5	68.6	65.4
30°	581.2	431.9	297.9	221.2	167.1	125.1	96.9	83.1	72.7	67.0	61.4
32.5°	624.0	448.0	285.8	204.2	147.7	106.6	82.3	71.0	63.8	57.3	55.7
35°	654.7	455.3	272.0	193.7	134.8	95.3	72.7	63.8	56.5	50.0	46.8
37.5°	683.7	456.1	257.5	184.1	130.0	90.4	67.0	58.9	52.5	46.8	43.6
40°	713.6	452.9	249.4	174.4	122.7	88.0	64.6	54.9	50.9	44.4	41.2
42.5°	735.4	447.2	246.2	168.7	116.2	81.5	63.0	54.1	48.4	43.6	39.6
45°	755.6	441.6	246.2	163.9	111.4	77.5	59.7	54.9	46.8	42.8	37.9
47.5°	779.8	444.0	247.0	159.8	107.4	73.5	56.5	53.3	47.6	42.0	37.1
50°	821.0	471.4	251.1	157.4	104.1	70.2	54.1	50.9	52.5	41.2	36.3
52.5°	892.0	515.0	257.5	155.8	100.9	67.8	50.9	49.2	53.3	41.2	35.5
55°	984.9	559.4	264.0	151.8	96.1	63.0	49.2	46.0	49.2	41.2	34.7
57.5°	1075.3	592.5	269.6	146.1	88.0	58.1	46.8	43.6	45.2	40.4	33.1
60°	1127.7	618.4	275.3	136.4	78.3	52.5	44.4	41.2	40.4	40.4	32.3
62.5°	1142.3	608.7	272.0	124.3	70.2	48.4	42.0	38.7	36.3	41.2	32.3
65°	1096.3	557.8	259.9	113.8	64.6	46.8	39.6	37.1	34.7	35.5	30.7
67.5°	955.0	469.0	226.8	104.1	63.8	46.0	37.9	35.5	32.3	31.5	29.1
70°	779.0	368.1	188.1	96.9	63.0	46.0	36.3	33.1	30.7	28.3	26.6
72.5°	599.0	275.3	158.2	93.6	63.8	45.2	33.9	29.9	27.4	25.8	24.2
75°	421.4	194.5	131.6	84.0	59.7	42.8	31.5	26.6	24.2	22.6	21.0
77.5°	305.1	132.4	97.7	67.8	50.9	37.1	27.4	22.6	20.2	19.4	17.8
80°	194.5	81.5	65.4	50.0	37.1	29.1	21.0	17.8	16.1	14.5	13.7
82.5°	112.2	47.6	39.6	33.9	24.2	19.4	15.3	13.7	10.5	9.7	8.9
85°	68.6	29.9	21.8	17.8	15.3	12.1	8.9	8.1	5.7	4.8	4.0
87.5°	15.3	6.5	5.7	4.0	4.8	4.0	2.4	1.6	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
97.5°	4.5	5.0	6.0	7.0	10.0	13.0	11.0	9.0	4.0	3.0	2.0
100°	26.5	27.0	28.5	30.0	31.0	32.0	31.0	30.0	22.0	14.0	10.0
102.5°	48.5	48.0	49.0	50.0	50.5	51.0	50.5	50.0	45.0	38.0	32.0
105°	70.0	69.0	70.0	71.0	71.0	71.0	70.5	70.0	66.0	61.0	56.0
107.5°	91.5	91.0	91.5	92.0	92.5	93.0	92.0	91.0	88.0	84.0	80.0
110°	113.5	113.0	113.5	114.0	114.0	114.0	113.0	112.0	110.0	106.0	103.0



REPORT NUMBER: P228451
 CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	100°	105°	110°	115°	120°	125°	130°	135°	145°	155°	165°	
112.5°	136.0	135.0	135.5	136.0	136.0	136.0	135.0	134.0	132.0	129.0	126.0	0°
115°	159.0	158.0	158.0	158.0	158.0	158.0	157.0	156.0	154.0	151.0	149.0	2.5°
117.5°	181.0	180.0	180.5	181.0	180.5	180.0	179.5	179.0	177.0	174.0	172.0	5°
120°	205.0	204.0	204.0	204.0	204.0	204.0	203.0	202.0	201.0	198.0	196.0	7.5°
122.5°	231.0	229.0	228.5	228.0	228.0	228.0	227.5	227.0	226.0	223.0	221.0	10°
125°	255.5	254.0	254.0	254.0	253.5	253.0	252.5	252.0	251.0	248.0	247.0	12.5°
127.5°	279.5	278.0	277.5	277.0	277.5	278.0	277.0	276.0	274.0	272.0	270.0	15°
130°	303.5	302.0	301.5	301.0	301.0	301.0	300.0	299.0	298.0	294.0	293.0	17.5°
132.5°	327.5	326.0	325.5	325.0	325.0	325.0	323.5	322.0	321.0	318.0	317.0	20°
135°	350.0	349.0	348.5	348.0	348.0	348.0	346.5	345.0	345.0	341.0	339.0	22.5°
137.5°	372.0	370.0	369.5	369.0	369.0	369.0	368.0	367.0	367.0	364.0	363.0	25°
140°	394.0	392.0	391.0	390.0	390.0	390.0	389.5	389.0	388.0	386.0	385.0	27.5°
142.5°	414.5	413.0	412.5	412.0	412.0	412.0	411.0	410.0	410.0	407.0	408.0	30°
145°	435.5	434.0	433.5	433.0	433.5	434.0	433.0	432.0	431.0	428.0	428.0	32.5°
147.5°	454.5	453.0	452.5	452.0	453.0	454.0	453.5	453.0	452.0	448.0	447.0	35°
150°	471.0	469.0	469.0	469.0	470.0	471.0	470.5	470.0	469.0	465.0	464.0	37.5°
152.5°	487.5	486.0	486.0	486.0	486.5	487.0	486.5	486.0	485.0	482.0	483.0	40°
155°	505.5	504.0	503.5	503.0	503.5	504.0	503.5	503.0	503.0	501.0	502.0	42.5°
157.5°	520.5	518.0	517.5	517.0	518.0	519.0	519.0	519.0	519.0	516.0	517.0	45°
160°	531.5	530.0	530.0	530.0	531.0	532.0	532.0	532.0	532.0	529.0	529.0	47.5°
162.5°	539.0	538.0	539.0	540.0	541.0	542.0	541.5	541.0	541.0	538.0	539.0	50°
165°	549.0	548.0	549.0	550.0	551.5	553.0	552.5	552.0	552.0	548.0	549.0	52.5°
167.5°	561.0	559.0	558.5	558.0	559.0	560.0	560.0	560.0	561.0	558.0	559.0	55°
170°	568.5	566.0	565.0	564.0	564.5	565.0	565.5	566.0	567.0	565.0	566.0	57.5°
172.5°	569.5	568.0	567.5	567.0	568.0	569.0	568.5	568.0	569.0	567.0	569.0	60°
175°	569.5	568.0	569.0	570.0	571.5	573.0	572.5	572.0	572.0	569.0	570.0	62.5°
177.5°	575.5	574.0	574.0	574.0	575.5	577.0	577.0	577.0	578.0	574.0	575.0	65°
180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	67.5°
												70°
												72.5°
												75°
												77.5°
												80°
												82.5°
												85°
												87.5°
												90°
												92.5°
												95°
												97.5°
												100°
												102.5°
												105°
												107.5°
												110°



NUMBER: P228451
 NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

REPORT NUMBER: P
 CATALOG NUMBER:

DISTRIBUTION (continued):

CANDELA DISTRIBUTION:

175°	180°	185°	195°	205°	215°	225°	230°	232.5°	235°	237.5°	175°	175°
564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	112.5°	124.0
502.1	490.0	490.8	488.4	481.9	471.4	468.2	462.6	463.4	466.6	463.4	115°	147.0
410.1	395.6	397.2	396.4	389.9	382.6	377.0	369.7	367.3	369.7	365.7	117.5°	170.0
290.6	280.9	284.2	291.4	290.6	286.6	281.7	273.7	272.0	272.9	265.6	120°	195.0
222.0	212.3	209.9	209.1	207.5	205.0	198.6	192.1	189.7	190.5	185.7	122.5°	220.0
185.7	177.6	167.9	159.0	151.0	147.7	139.7	135.6	134.8	134.8	132.4	125°	246.0
146.9	140.5	134.8	125.9	119.5	114.6	109.0	105.8	104.9	105.8	105.8	127.5°	269.0
109.8	106.6	104.1	103.3	100.1	96.9	93.6	92.0	91.2	91.2	92.0	130°	292.0
84.0	83.1	83.1	83.1	87.2	90.4	91.2	88.8	88.0	87.2	86.4	132.5°	314.0
72.7	71.8	72.7	77.5	75.1	72.7	72.7	72.7	72.7	72.7	73.5	135°	337.0
67.0	67.8	68.6	66.2	63.8	62.2	61.4	61.4	60.5	60.5	61.4	137.5°	360.0
63.8	63.0	62.2	60.5	58.9	56.5	55.7	54.9	54.9	54.9	54.9	140°	383.0
59.7	58.9	58.1	56.5	54.1	50.9	50.0	50.0	49.2	50.0	50.0	142.5°	406.0
54.9	54.1	53.3	51.7	49.2	47.6	46.8	45.2	45.2	45.2	46.0	145°	426.0
44.4	43.6	43.6	44.4	44.4	43.6	43.6	42.0	42.0	42.0	42.0	147.5°	444.0
41.2	40.4	40.4	39.6	40.4	41.2	40.4	39.6	39.6	38.7	38.7	150°	462.0
38.7	38.7	37.9	37.1	37.1	38.7	37.9	37.1	36.3	36.3	36.3	152.5°	480.0
37.1	36.3	36.3	35.5	35.5	35.5	34.7	33.9	33.1	33.1	33.1	155°	500.0
35.5	35.5	34.7	33.9	33.1	33.1	31.5	30.7	30.7	30.7	31.5	157.5°	515.0
34.7	33.9	33.9	33.1	32.3	30.7	29.9	29.1	29.1	29.1	29.1	160°	527.0
33.9	33.1	32.3	32.3	30.7	29.9	29.1	28.3	28.3	28.3	28.3	162.5°	536.0
33.1	32.3	31.5	30.7	29.9	29.1	28.3	27.4	27.4	27.4	27.4	165°	547.0
31.5	30.7	30.7	29.9	29.9	29.1	28.3	27.4	27.4	27.4	26.6	167.5°	556.0
30.7	29.9	29.1	29.1	29.1	28.3	27.4	26.6	26.6	26.6	26.6	170°	563.0
29.9	29.1	29.1	28.3	28.3	27.4	27.4	26.6	25.8	25.8	25.0	172.5°	566.0
29.1	28.3	28.3	27.4	28.3	27.4	26.6	25.8	25.0	25.0	24.2	175°	569.0
28.3	27.4	27.4	26.6	26.6	25.8	25.0	24.2	24.2	24.2	23.4	177.5°	573.0
26.6	25.8	25.8	26.6	25.8	25.0	25.0	23.4	23.4	22.6	22.6	180°	576.0
24.2	24.2	24.2	25.0	24.2	23.4	23.4	22.6	21.8	21.0	21.0		
22.6	21.8	22.6	22.6	22.6	21.8	22.6	21.0	20.2	19.4	19.4		
19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	18.6	17.8	17.0		
15.3	16.1	16.1	16.1	16.1	17.0	16.1	16.1	16.1	15.3	14.5		
11.3	11.3	12.1	12.9	12.1	12.9	12.1	12.9	12.1	12.1	12.1		
6.5	6.5	7.3	8.1	8.1	8.9	7.3	8.1	8.1	8.9	8.1		
2.4	2.4	2.4	2.4	3.2	3.2	2.4	3.2	3.2	4.0	4.0		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
2.0	2.0	2.0	2.0	3.0	4.0	9.0	11.0	12.0	13.0	11.5		
8.0	8.0	8.0	10.0	14.0	22.0	30.0	31.0	31.5	32.0	31.5		
28.0	28.0	28.0	32.0	38.0	45.0	50.0	50.5	50.8	51.0	50.8		
54.0	54.0	54.0	56.0	61.0	66.0	70.0	70.5	70.8	71.0	71.0		
77.0	78.0	77.0	80.0	84.0	88.0	91.0	92.0	92.5	93.0	92.8		
102.0	101.0	102.0	103.0	106.0	110.0	112.0	113.0	113.5	114.0	114.0		

'228451
 ISS-AF-450-LED-E1-SLL-8030-ULG

REPORT NUMBER: P228451
 CATALOG NUMBER: ISS-AF-451

TION (continued):

CANDELA DISTRIBUTION (con

180°	185°	195°	205°	215°	225°	230°	232.5°	235°	237.5°		240°	242.5°
124.0	124.0	126.0	129.0	132.0	134.0	135.0	135.5	136.0	136.0	0°	564.3	564.3
146.0	147.0	149.0	151.0	154.0	156.0	157.0	157.5	158.0	158.0	2.5°	469.8	469.8
169.0	170.0	172.0	174.0	177.0	179.0	179.5	179.8	180.0	180.2	5°	368.9	368.1
193.0	195.0	196.0	198.0	201.0	202.0	203.0	203.5	204.0	204.0	7.5°	268.0	265.6
219.0	220.0	221.0	223.0	226.0	227.0	227.5	227.8	228.0	228.0	10°	187.3	180.8
244.0	246.0	247.0	248.0	251.0	252.0	252.5	252.8	253.0	253.2	12.5°	135.6	133.2
267.0	269.0	270.0	272.0	274.0	276.0	277.0	277.5	278.0	277.8	15°	107.4	107.4
290.0	292.0	293.0	294.0	298.0	299.0	300.0	300.5	301.0	301.0	17.5°	92.8	92.8
313.0	314.0	317.0	318.0	321.0	322.0	323.5	324.2	325.0	325.0	20°	85.6	84.8
336.0	337.0	339.0	341.0	345.0	345.0	346.5	347.2	348.0	348.0	22.5°	73.5	72.7
359.0	360.0	363.0	364.0	367.0	367.0	368.0	368.5	369.0	369.0	25°	60.5	60.5
382.0	383.0	385.0	386.0	388.0	389.0	389.5	389.8	390.0	390.0	27.5°	54.9	54.9
404.0	406.0	408.0	407.0	410.0	410.0	411.0	411.5	412.0	412.0	30°	50.0	50.9
425.0	426.0	428.0	428.0	431.0	432.0	433.0	433.5	434.0	433.8	32.5°	46.0	46.0
444.0	444.0	447.0	448.0	452.0	453.0	453.5	453.8	454.0	453.5	35°	41.2	41.2
461.0	462.0	464.0	465.0	469.0	470.0	470.5	470.8	471.0	470.5	37.5°	37.9	37.1
479.0	480.0	483.0	482.0	485.0	486.0	486.5	486.8	487.0	486.8	40°	34.7	34.7
499.0	500.0	502.0	501.0	503.0	503.0	503.5	503.8	504.0	503.8	42.5°	32.3	32.3
513.0	515.0	517.0	516.0	519.0	519.0	519.0	519.0	519.0	518.5	45°	30.7	30.7
525.0	527.0	529.0	529.0	532.0	532.0	532.0	532.0	532.0	531.5	47.5°	29.9	29.9
535.0	536.0	539.0	538.0	541.0	541.0	541.5	541.8	542.0	541.5	50°	28.3	28.3
546.0	547.0	549.0	548.0	552.0	552.0	552.5	552.8	553.0	552.2	52.5°	27.4	27.4
555.0	556.0	559.0	558.0	561.0	560.0	560.0	560.0	560.0	559.5	55°	26.6	27.4
562.0	563.0	566.0	565.0	567.0	566.0	565.5	565.2	565.0	564.8	57.5°	25.8	25.8
565.0	566.0	569.0	567.0	569.0	568.0	568.5	568.8	569.0	568.5	60°	25.0	25.0
567.0	569.0	570.0	569.0	572.0	572.0	572.5	572.8	573.0	572.2	62.5°	24.2	24.2
572.0	573.0	575.0	574.0	578.0	577.0	577.0	577.0	577.0	576.2	65°	23.4	23.4
576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	67.5°	21.8	21.8
										70°	20.2	20.2
										72.5°	18.6	18.6
										75°	17.0	16.1
										77.5°	14.5	13.7
										80°	12.1	11.3
										82.5°	8.9	8.1
										85°	4.0	4.0
										87.5°	0.0	0.0
										90°	0.0	0.0
										92.5°	0.0	0.0
										95°	1.0	1.0
										97.5°	10.0	8.5
										100°	31.0	30.5
										102.5°	50.5	50.2
										105°	71.0	71.0
										107.5°	92.5	92.2
										110°	114.0	114.0

REPORT NUMBER: P228451

CATALOG NUMBER: ISS-AF-450-LED-E1-S

0-LED-E1-SLL-8030-ULG

<u>tinued):</u>										<u>CANDELA DISTRIBUTION (continued):</u>		
245°	247.5°	250°	252.5°	255°	257.5°	260°	265°	270°		240°	242.5°	245°
564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	112.5°	136.0	136.0	136.0
460.1	461.8	463.4	466.6	465.0	464.2	463.4	468.2	470.6	115°	158.0	158.0	158.0
356.0	355.2	357.6	358.4	356.0	352.0	349.5	350.3	352.8	117.5°	180.5	180.8	181.0
254.3	252.7	251.9	252.7	250.2	246.2	243.0	243.8	246.2	120°	204.0	204.0	204.0
179.2	180.0	181.6	183.2	183.2	183.2	184.1	188.9	194.5	122.5°	228.0	228.0	228.0
134.8	136.4	139.7	142.1	144.5	145.3	146.1	152.6	157.4	125°	253.5	253.8	254.0
109.0	109.8	111.4	113.0	114.6	114.6	115.4	117.9	121.9	127.5°	277.5	277.2	277.0
92.8	92.8	92.8	92.0	91.2	89.6	88.8	88.0	88.8	130°	301.0	301.0	301.0
83.1	82.3	80.7	79.1	78.3	75.9	75.1	72.7	71.8	132.5°	325.0	325.0	325.0
72.7	72.7	72.7	71.8	71.0	70.2	68.6	66.2	64.6	135°	348.0	348.0	348.0
60.5	61.4	61.4	62.2	63.8	63.8	63.8	63.8	61.4	137.5°	369.0	369.0	369.0
54.9	54.9	55.7	55.7	56.5	56.5	56.5	57.3	58.1	140°	390.0	390.0	390.0
50.9	51.7	51.7	52.5	52.5	53.3	53.3	54.1	54.1	142.5°	412.0	412.0	412.0
46.8	47.6	47.6	47.6	49.2	49.2	48.4	49.2	49.2	145°	433.5	433.2	433.0
41.2	41.2	41.2	41.2	41.2	41.2	39.6	38.7	39.6	147.5°	453.0	452.5	452.0
37.1	36.3	35.5	35.5	35.5	36.3	35.5	36.3	36.3	150°	470.0	469.5	469.0
33.9	33.9	33.9	33.9	33.9	33.9	33.9	34.7	35.5	152.5°	486.5	486.2	486.0
32.3	32.3	32.3	32.3	32.3	32.3	32.3	33.1	33.1	155°	503.5	503.2	503.0
30.7	30.7	31.5	31.5	31.5	31.5	31.5	31.5	32.3	157.5°	518.0	517.5	517.0
29.9	29.9	29.9	29.9	29.9	29.9	29.9	30.7	31.5	160°	531.0	530.5	530.0
29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.9	30.7	162.5°	541.0	540.5	540.0
27.4	28.3	28.3	28.3	28.3	28.3	28.3	28.3	29.1	165°	551.5	550.8	550.0
27.4	27.4	27.4	27.4	26.6	26.6	26.6	26.6	27.4	167.5°	559.0	558.5	558.0
26.6	26.6	26.6	25.8	25.8	25.0	25.0	25.0	26.6	170°	564.5	564.2	564.0
25.0	25.0	25.0	24.2	24.2	24.2	24.2	25.0	25.0	172.5°	568.0	567.5	567.0
23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	175°	571.5	570.8	570.0
22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	177.5°	575.5	574.8	574.0
21.8	21.0	21.0	21.0	21.0	21.8	21.0	21.0	21.0	180°	576.0	576.0	576.0
20.2	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4				
18.6	18.6	17.8	17.8	17.8	17.8	17.8	17.8	17.8				
16.1	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3				
13.7	13.7	12.9	12.9	12.9	12.9	12.9	12.9	12.9				
11.3	10.5	10.5	10.5	10.5	10.5	10.5	9.7	9.7				
8.1	8.1	8.1	7.3	7.3	7.3	7.3	6.5	5.7				
3.2	4.0	4.0	4.8	4.0	4.0	4.0	3.2	1.6				
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0				
7.0	6.5	6.0	5.5	5.0	4.8	4.5	4.0	4.0				
30.0	29.2	28.5	27.8	27.0	26.8	26.5	26.0	25.0				
50.0	49.5	49.0	48.5	48.0	48.2	48.5	49.0	48.0				
71.0	70.5	70.0	69.5	69.0	69.5	70.0	71.0	69.0				
92.0	91.8	91.5	91.2	91.0	91.2	91.5	92.0	91.0				
114.0	113.8	113.5	113.2	113.0	113.2	113.5	114.0	113.0				



REPORT NUMBER: P228451

CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-U

SLL-8030-ULG

CANDELA DISTRIBUTION (continued):

247.5°	250°	252.5°	255°	257.5°	260°	265°	270°		275°	280°	282.5°	285°
135.8	135.5	135.2	135.0	135.5	136.0	137.0	135.0	0°	564.3	564.3	564.3	564.3
158.0	158.0	158.0	158.0	158.5	159.0	160.0	159.0	2.5°	469.0	477.1	477.9	473.1
180.8	180.5	180.2	180.0	180.5	181.0	182.0	180.0	5°	349.5	360.0	359.2	352.8
204.0	204.0	204.0	204.0	204.5	205.0	206.0	204.0	7.5°	247.0	255.9	255.1	254.3
228.2	228.5	228.8	229.0	230.0	231.0	233.0	232.0	10°	200.2	208.3	210.7	216.3
254.0	254.0	254.0	254.0	254.8	255.5	257.0	256.0	12.5°	162.3	171.9	174.4	180.8
277.2	277.5	277.8	278.0	278.8	279.5	281.0	278.0	15°	125.1	133.2	135.6	140.5
301.2	301.5	301.8	302.0	302.8	303.5	305.0	303.0	17.5°	92.0	96.9	98.5	101.7
325.2	325.5	325.8	326.0	326.8	327.5	329.0	327.0	20°	71.8	73.5	74.3	75.1
348.2	348.5	348.8	349.0	349.5	350.0	351.0	350.0	22.5°	64.6	65.4	65.4	66.2
369.2	369.5	369.8	370.0	371.0	372.0	374.0	372.0	25°	59.7	60.5	60.5	61.4
390.5	391.0	391.5	392.0	393.0	394.0	396.0	394.0	27.5°	57.3	57.3	57.3	57.3
412.2	412.5	412.8	413.0	413.8	414.5	416.0	415.0	30°	54.9	54.9	54.9	55.7
433.2	433.5	433.8	434.0	434.8	435.5	437.0	435.0	32.5°	50.9	49.2	50.9	50.0
452.2	452.5	452.8	453.0	453.8	454.5	456.0	453.0	35°	39.6	39.6	40.4	41.2
469.0	469.0	469.0	469.0	470.0	471.0	473.0	470.0	37.5°	37.1	37.9	37.9	38.7
486.0	486.0	486.0	486.0	486.8	487.5	489.0	486.0	40°	35.5	36.3	37.1	37.9
503.2	503.5	503.8	504.0	504.8	505.5	507.0	505.0	42.5°	33.9	35.5	35.5	36.3
517.2	517.5	517.8	518.0	519.2	520.5	523.0	520.0	45°	33.1	33.9	34.7	35.5
530.0	530.0	530.0	530.0	530.8	531.5	533.0	531.0	47.5°	32.3	33.1	33.9	34.7
539.5	539.0	538.5	538.0	538.5	539.0	540.0	537.0	50°	30.7	32.3	33.1	33.9
549.5	549.0	548.5	548.0	548.5	549.0	550.0	548.0	52.5°	29.9	31.5	31.5	33.1
558.2	558.5	558.8	559.0	560.0	561.0	563.0	561.0	55°	28.3	29.9	29.9	31.5
564.5	565.0	565.5	566.0	567.2	568.5	571.0	569.0	57.5°	26.6	28.3	29.1	29.9
567.2	567.5	567.8	568.0	568.8	569.5	571.0	568.0	60°	25.8	26.6	27.4	28.3
569.5	569.0	568.5	568.0	568.8	569.5	571.0	568.0	62.5°	24.2	25.8	26.6	27.4
574.0	574.0	574.0	574.0	574.8	575.5	577.0	574.0	65°	23.4	25.0	25.0	26.6
576.0	576.0	576.0	576.0	576.0	576.0	576.0	576.0	67.5°	21.8	23.4	23.4	24.2
								70°	20.2	21.0	21.8	22.6
								72.5°	18.6	19.4	19.4	20.2
								75°	15.3	16.1	17.0	17.8
								77.5°	12.9	12.9	14.5	14.5
								80°	9.7	9.7	10.5	11.3
								82.5°	5.7	5.7	6.5	6.5
								85°	1.6	1.6	1.6	1.6
								87.5°	0.0	0.0	0.0	0.0
								90°	0.0	0.0	0.0	0.0
								92.5°	0.0	0.0	0.0	0.0
								95°	1.0	1.0	1.0	1.0
								97.5°	4.0	4.5	4.8	5.0
								100°	26.0	26.5	26.8	27.0
								102.5°	49.0	48.5	48.2	48.0
								105°	71.0	70.0	69.5	69.0
								107.5°	92.0	91.5	91.2	91.0
								110°	114.0	113.5	113.2	113.0



REPORT NUMBER: P228451

CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

ILG

CANDELA DISTRIBUTION (continued):

287.5°	290°	292.5°	295°	297.5°	300°	302.5°		275°	280°	282.5°	285°	287.5°
564.3	564.3	564.3	564.3	564.3	564.3	564.3	112.5°	137.0	136.0	135.5	135.0	135.2
482.7	484.4	481.9	481.9	483.5	490.0	490.0	115°	160.0	159.0	158.5	158.0	158.0
365.7	369.7	367.3	368.1	371.3	378.6	382.6	117.5°	182.0	181.0	180.5	180.0	180.2
262.4	265.6	267.2	269.6	279.3	280.1	285.0	120°	206.0	205.0	204.5	204.0	204.0
218.8	223.6	226.8	230.9	238.9	243.0	248.6	122.5°	233.0	231.0	230.0	229.0	228.8
184.1	189.7	192.9	201.0	205.9	210.7	218.0	125°	257.0	255.5	254.8	254.0	254.0
143.7	150.1	153.4	158.2	167.9	172.8	182.4	127.5°	281.0	279.5	278.8	278.0	277.8
104.1	106.6	113.0	121.1	126.7	134.8	139.7	130°	305.0	303.5	302.8	302.0	301.8
76.7	78.3	81.5	87.2	90.4	96.9	101.7	132.5°	329.0	327.5	326.8	326.0	325.8
66.2	67.0	68.6	70.2	71.8	74.3	76.7	135°	351.0	350.0	349.5	349.0	348.8
61.4	62.2	63.0	63.8	65.4	66.2	67.0	137.5°	374.0	372.0	371.0	370.0	369.8
58.1	58.1	58.9	60.5	60.5	62.2	63.0	140°	396.0	394.0	393.0	392.0	391.5
56.5	58.1	59.7	62.2	63.0	64.6	65.4	142.5°	416.0	414.5	413.8	413.0	412.8
48.4	48.4	49.2	50.9	50.9	51.7	52.5	145°	437.0	435.5	434.8	434.0	433.8
41.2	42.0	42.8	43.6	44.4	46.0	46.8	147.5°	456.0	454.5	453.8	453.0	452.8
39.6	39.6	40.4	42.0	42.8	43.6	44.4	150°	473.0	471.0	470.0	469.0	469.0
37.9	38.7	39.6	40.4	41.2	42.8	43.6	152.5°	489.0	487.5	486.8	486.0	486.0
37.1	37.9	38.7	39.6	41.2	42.0	42.8	155°	507.0	505.5	504.8	504.0	503.8
36.3	37.1	37.9	39.6	40.4	42.0	42.8	157.5°	523.0	520.5	519.2	518.0	517.8
35.5	36.3	37.1	38.7	40.4	42.0	43.6	160°	533.0	531.5	530.8	530.0	530.0
34.7	35.5	37.1	38.7	40.4	42.8	46.8	162.5°	540.0	539.0	538.5	538.0	538.5
33.9	35.5	37.1	38.7	41.2	44.4	48.4	165°	550.0	549.0	548.5	548.0	548.5
33.1	34.7	35.5	37.9	40.4	43.6	44.4	167.5°	563.0	561.0	560.0	559.0	558.8
31.5	33.1	33.9	36.3	39.6	40.4	39.6	170°	571.0	568.5	567.2	566.0	565.5
29.9	30.7	33.1	37.9	41.2	37.9	33.9	172.5°	571.0	569.5	568.8	568.0	567.8
29.1	29.9	31.5	34.7	35.5	31.5	30.7	175°	571.0	569.5	568.8	568.0	568.5
27.4	27.4	28.3	28.3	28.3	28.3	28.3	177.5°	577.0	575.5	574.8	574.0	574.0
25.0	25.0	25.8	25.8	25.8	25.8	25.8	180°	576.0	576.0	576.0	576.0	576.0
22.6	22.6	23.4	23.4	23.4	24.2	24.2						
20.2	21.0	21.0	21.8	21.8	21.8	22.6						
17.8	18.6	18.6	18.6	18.6	19.4	19.4						
15.3	15.3	16.1	16.1	16.1	16.1	16.1						
12.1	12.1	12.1	12.1	12.1	12.1	12.1						
7.3	7.3	8.1	7.3	7.3	6.5	6.5						
1.6	1.6	1.6	0.8	0.8	0.0	0.0						
0.0	0.0	0.0	0.0	0.0	0.0	0.0						
0.0	0.0	0.0	0.0	0.0	0.0	0.0						
0.0	0.0	0.0	0.0	0.0	0.0	0.0						
1.0	1.0	1.0	1.0	1.0	1.0	1.0						
5.5	6.0	6.5	7.0	8.5	10.0	11.5						
27.8	28.5	29.2	30.0	30.5	31.0	31.5						
48.5	49.0	49.5	50.0	50.2	50.5	50.8						
69.5	70.0	70.5	71.0	71.0	71.0	71.0						
91.2	91.5	91.8	92.0	92.2	92.5	92.8						
113.2	113.5	113.8	114.0	114.0	114.0	114.0						



REPORT NUMBER: P228451

CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

CANDELA DISTRIBUTION (continued):

290°	292.5°	295°	297.5°	300°	302.5°		305°	307.5°	310°	312.5°	315°	317.5°
135.5	135.8	136.0	136.0	136.0	136.0	0°	564.3	564.3	564.3	564.3	564.3	564.3
158.0	158.0	158.0	158.0	158.0	158.0	2.5°	502.1	502.1	503.7	510.2	511.8	515.8
180.5	180.8	181.0	180.8	180.5	180.2	5°	397.2	400.4	405.2	413.3	418.2	427.0
204.0	204.0	204.0	204.0	204.0	204.0	7.5°	296.3	301.1	305.1	314.0	321.3	330.2
228.5	228.2	228.0	228.0	228.0	228.0	10°	256.7	260.7	266.4	272.0	279.3	283.3
254.0	254.0	254.0	253.8	253.5	253.2	12.5°	228.5	234.1	239.8	247.8	255.1	262.4
277.5	277.2	277.0	277.2	277.5	277.8	15°	193.7	200.2	206.7	215.5	226.0	233.3
301.5	301.2	301.0	301.0	301.0	301.0	17.5°	150.1	157.4	166.3	178.4	189.7	198.6
325.5	325.2	325.0	325.0	325.0	325.0	20°	110.6	117.1	125.1	135.6	143.7	159.0
348.5	348.2	348.0	348.0	348.0	348.0	22.5°	81.5	85.6	92.0	100.1	109.0	122.7
369.5	369.2	369.0	369.0	369.0	369.0	25°	68.6	70.2	72.7	77.5	83.1	92.8
391.0	390.5	390.0	390.0	390.0	390.0	27.5°	63.8	64.6	66.2	68.6	71.8	76.7
412.5	412.2	412.0	412.0	412.0	412.0	30°	67.0	67.0	67.0	67.8	69.4	71.8
433.5	433.2	433.0	433.2	433.5	433.8	32.5°	54.1	54.9	54.9	56.5	57.3	60.5
452.5	452.2	452.0	452.5	453.0	453.5	35°	48.4	49.2	50.0	50.9	52.5	53.3
469.0	469.0	469.0	469.5	470.0	470.5	37.5°	46.0	46.8	47.6	47.6	48.4	50.0
486.0	486.0	486.0	486.2	486.5	486.8	40°	45.2	45.2	45.2	45.2	46.8	48.4
503.5	503.2	503.0	503.2	503.5	503.8	42.5°	43.6	43.6	43.6	44.4	46.8	50.0
517.5	517.2	517.0	517.5	518.0	518.5	45°	43.6	43.6	44.4	47.6	48.4	48.4
530.0	530.0	530.0	530.5	531.0	531.5	47.5°	45.2	46.8	47.6	46.8	46.0	46.0
539.0	539.5	540.0	540.5	541.0	541.5	50°	49.2	48.4	45.2	44.4	44.4	42.8
549.0	549.5	550.0	550.8	551.5	552.2	52.5°	48.4	45.2	44.4	42.8	41.2	40.4
558.5	558.2	558.0	558.5	559.0	559.5	55°	43.6	42.8	40.4	38.7	37.9	38.7
565.0	564.5	564.0	564.2	564.5	564.8	57.5°	37.9	37.1	35.5	35.5	36.3	37.1
567.5	567.2	567.0	567.5	568.0	568.5	60°	33.1	33.1	33.1	33.9	34.7	35.5
569.0	569.5	570.0	570.8	571.5	572.2	62.5°	29.9	30.7	30.7	32.3	33.1	33.9
574.0	574.0	574.0	574.8	575.5	576.2	65°	28.3	29.1	29.9	29.9	30.7	31.5
576.0	576.0	576.0	576.0	576.0	576.0	67.5°	26.6	26.6	27.4	28.3	29.1	29.9
						70°	24.2	25.0	25.8	26.6	26.6	27.4
						72.5°	22.6	22.6	23.4	24.2	24.2	25.8
						75°	19.4	20.2	20.2	20.2	21.0	22.6
						77.5°	17.0	16.1	17.0	17.0	17.8	18.6
						80°	12.1	11.3	11.3	12.1	12.1	12.1
						82.5°	6.5	5.7	6.5	5.7	5.7	6.5
						85°	0.0	0.0	0.0	0.0	0.0	0.0
						87.5°	0.0	0.0	0.0	0.0	0.0	0.0
						90°	0.0	0.0	0.0	0.0	0.0	0.0
						92.5°	0.0	0.0	0.0	0.0	0.0	0.0
						95°	1.0	1.0	1.0	1.0	1.0	1.0
						97.5°	13.0	12.0	11.0	10.0	9.0	7.8
						100°	32.0	31.5	31.0	30.5	30.0	28.0
						102.5°	51.0	50.8	50.5	50.2	50.0	48.8
						105°	71.0	70.8	70.5	70.2	70.0	69.0
						107.5°	93.0	92.5	92.0	91.5	91.0	90.2
						110°	114.0	113.5	113.0	112.5	112.0	111.5

REPORT NUMBER: P228451

CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

CANDELA DISTRIBUTION (continued):

320°	322.5°	325°	335°	345°		305°	307.5°	310°	312.5°	315°	317.5°	320°
564.3	564.3	564.3	564.3	564.3	112.5°	136.0	135.5	135.0	134.5	134.0	133.5	133.0
515.0	522.3	525.5	544.9	565.1	115°	158.0	157.5	157.0	156.5	156.0	155.5	155.0
425.4	440.0	442.4	477.9	512.6	117.5°	180.0	179.8	179.5	179.2	179.0	178.5	178.0
332.6	349.5	354.4	401.2	449.6	120°	204.0	203.5	203.0	202.5	202.0	201.8	201.5
289.8	297.9	303.5	338.2	393.9	122.5°	228.0	227.8	227.5	227.2	227.0	226.8	226.5
268.8	276.9	284.2	312.4	356.0	125°	253.0	252.8	252.5	252.2	252.0	251.8	251.5
240.6	249.4	258.3	293.0	343.9	127.5°	278.0	277.5	277.0	276.5	276.0	275.5	275.0
205.9	218.0	229.3	271.2	338.2	130°	301.0	300.5	300.0	299.5	299.0	298.8	298.5
167.1	181.6	195.4	247.8	330.2	132.5°	325.0	324.2	323.5	322.8	322.0	321.8	321.5
131.6	144.5	159.8	226.0	330.2	135°	348.0	347.2	346.5	345.8	345.0	345.0	345.0
101.7	114.6	130.0	206.7	339.0	137.5°	369.0	368.5	368.0	367.5	367.0	367.0	367.0
83.1	93.6	109.0	191.3	352.0	140°	390.0	389.8	389.5	389.2	389.0	388.8	388.5
75.1	81.5	91.2	168.7	360.8	142.5°	412.0	411.5	411.0	410.5	410.0	410.0	410.0
63.8	68.6	77.5	155.0	366.5	145°	434.0	433.5	433.0	432.5	432.0	431.8	431.5
56.5	62.2	71.0	146.1	365.7	147.5°	454.0	453.8	453.5	453.2	453.0	452.8	452.5
52.5	58.1	68.6	142.9	365.7	150°	471.0	470.8	470.5	470.2	470.0	469.8	469.5
52.5	58.1	67.0	139.7	368.1	152.5°	487.0	486.8	486.5	486.2	486.0	485.8	485.5
51.7	54.9	62.2	138.0	372.1	155°	504.0	503.8	503.5	503.2	503.0	503.0	503.0
49.2	51.7	58.9	138.0	380.2	157.5°	519.0	519.0	519.0	519.0	519.0	519.0	519.0
46.0	49.2	56.5	140.5	395.6	160°	532.0	532.0	532.0	532.0	532.0	532.0	532.0
43.6	46.8	55.7	140.5	427.0	162.5°	542.0	541.8	541.5	541.2	541.0	541.0	541.0
41.2	46.0	54.9	138.8	472.2	165°	553.0	552.8	552.5	552.2	552.0	552.0	552.0
40.4	44.4	53.3	137.2	527.9	167.5°	560.0	560.0	560.0	560.0	560.0	560.2	560.5
39.6	42.8	49.2	133.2	572.3	170°	565.0	565.2	565.5	565.8	566.0	566.2	566.5
37.9	40.4	45.2	125.9	602.2	172.5°	569.0	568.8	568.5	568.2	568.0	568.2	568.5
35.5	37.9	41.2	117.9	608.7	175°	573.0	572.8	572.5	572.2	572.0	572.0	572.0
33.9	36.3	41.2	111.4	569.1	177.5°	577.0	577.0	577.0	577.0	577.0	577.2	577.5
31.5	35.5	42.0	105.8	482.7	180°	576.0	576.0	576.0	576.0	576.0	576.0	576.0
29.9	35.5	42.8	103.3	383.4								
28.3	34.7	43.6	99.3	289.0								
25.8	31.5	37.9	82.3	195.4								
21.0	24.2	28.3	52.5	103.3								
13.7	14.5	16.1	32.3	57.3								
6.5	8.1	8.1	15.3	25.8								
0.0	0.0	0.0	1.6	5.7								
0.0	0.0	0.0	0.0	0.0								
0.0	0.0	0.0	0.0	0.0								
0.0	0.0	0.0	0.0	0.0								
1.0	1.0	1.0	1.0	1.0								
6.5	5.2	4.0	3.0	2.0								
26.0	24.0	22.0	14.0	10.0								
47.5	46.2	45.0	38.0	32.0								
68.0	67.0	66.0	61.0	56.0								
89.5	88.8	88.0	84.0	80.0								
111.0	110.5	110.0	106.0	103.0								

REPORT NUMBER: P228451
 CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

CANDELA DISTRIBUTION (continued):

322.5°	325°	335°	345°		355°	359°	360°
132.5	132.0	129.0	126.0	0°	564.3	564.3	564.3
154.5	154.0	151.0	149.0	2.5°	584.5	594.1	599.0
177.5	177.0	174.0	172.0	5°	553.0	573.2	579.6
201.2	201.0	198.0	196.0	7.5°	505.3	527.9	536.8
226.2	226.0	223.0	221.0	10°	457.7	486.0	494.8
251.2	251.0	248.0	247.0	12.5°	429.5	463.4	468.2
274.5	274.0	272.0	270.0	15°	418.2	452.9	462.6
298.2	298.0	294.0	293.0	17.5°	429.5	468.2	477.9
321.2	321.0	318.0	317.0	20°	451.3	498.9	514.2
345.0	345.0	341.0	339.0	22.5°	488.4	553.0	572.3
367.0	367.0	364.0	363.0	25°	548.9	638.5	655.5
388.2	388.0	386.0	385.0	27.5°	613.5	706.3	733.0
410.0	410.0	407.0	408.0	30°	670.0	769.3	791.1
431.2	431.0	428.0	428.0	32.5°	710.4	819.4	844.4
452.2	452.0	448.0	447.0	35°	758.0	876.7	900.9
469.2	469.0	465.0	464.0	37.5°	812.9	946.1	979.2
485.2	485.0	482.0	483.0	40°	873.5	1017.9	1055.1
503.0	503.0	501.0	502.0	42.5°	928.3	1085.0	1126.1
519.0	519.0	516.0	517.0	45°	971.1	1147.9	1180.2
532.0	532.0	529.0	529.0	47.5°	1020.4	1196.4	1232.7
541.0	541.0	538.0	539.0	50°	1088.2	1257.7	1300.5
552.0	552.0	548.0	549.0	52.5°	1187.5	1361.8	1392.5
560.8	561.0	558.0	559.0	55°	1307.8	1487.8	1522.5
566.8	567.0	565.0	566.0	57.5°	1418.3	1604.8	1634.7
568.8	569.0	567.0	569.0	60°	1489.4	1658.9	1683.9
572.0	572.0	569.0	570.0	62.5°	1490.2	1660.5	1692.0
577.8	578.0	574.0	575.0	65°	1431.3	1625.0	1660.5
576.0	576.0	576.0	576.0	67.5°	1281.9	1534.6	1589.5
				70°	1082.5	1357.0	1418.3
				72.5°	844.4	1066.4	1136.6
				75°	572.3	708.0	769.3
				77.5°	364.1	408.5	428.7
				80°	214.7	241.4	251.9
				82.5°	133.2	143.7	154.2
				85°	54.1	38.7	42.0
				87.5°	0.0	0.0	0.0
				90°	0.0	0.0	0.0
				92.5°	0.0	0.0	0.0
				95°	1.0	1.0	1.0
				97.5°	2.0	2.0	2.0
				100°	8.0	8.0	8.0
				102.5°	28.0	28.0	28.0
				105°	54.0	54.0	54.0
				107.5°	77.0	77.8	78.0
				110°	102.0	101.2	101.0

REPORT NUMBER: P228451

CATALOG NUMBER: ISS-AF-450-LED-E1-SLL-8030-ULG

CANDELA DISTRIBUTION (continued):

	355°	359°	360°
112.5°	124.0	124.0	124.0
115°	147.0	146.2	146.0
117.5°	170.0	169.2	169.0
120°	195.0	193.4	193.0
122.5°	220.0	219.2	219.0
125°	246.0	244.4	244.0
127.5°	269.0	267.4	267.0
130°	292.0	290.4	290.0
132.5°	314.0	313.2	313.0
135°	337.0	336.2	336.0
137.5°	360.0	359.2	359.0
140°	383.0	382.2	382.0
142.5°	406.0	404.4	404.0
145°	426.0	425.2	425.0
147.5°	444.0	444.0	444.0
150°	462.0	461.2	461.0
152.5°	480.0	479.2	479.0
155°	500.0	499.2	499.0
157.5°	515.0	513.4	513.0
160°	527.0	525.4	525.0
162.5°	536.0	535.2	535.0
165°	547.0	546.2	546.0
167.5°	556.0	555.2	555.0
170°	563.0	562.2	562.0
172.5°	566.0	565.2	565.0
175°	569.0	567.4	567.0
177.5°	573.0	572.2	572.0
180°	576.0	576.0	576.0

(END OF REPORT)