

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: P228359

Luminaire Tested: **ISS-AF-450-LED-E1-SL4-7030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P228359  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29763)  
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-SL4-7030  
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE  
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV W/SPILL CONTROL  
Light Source: (16) 3000K CCT, 70 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

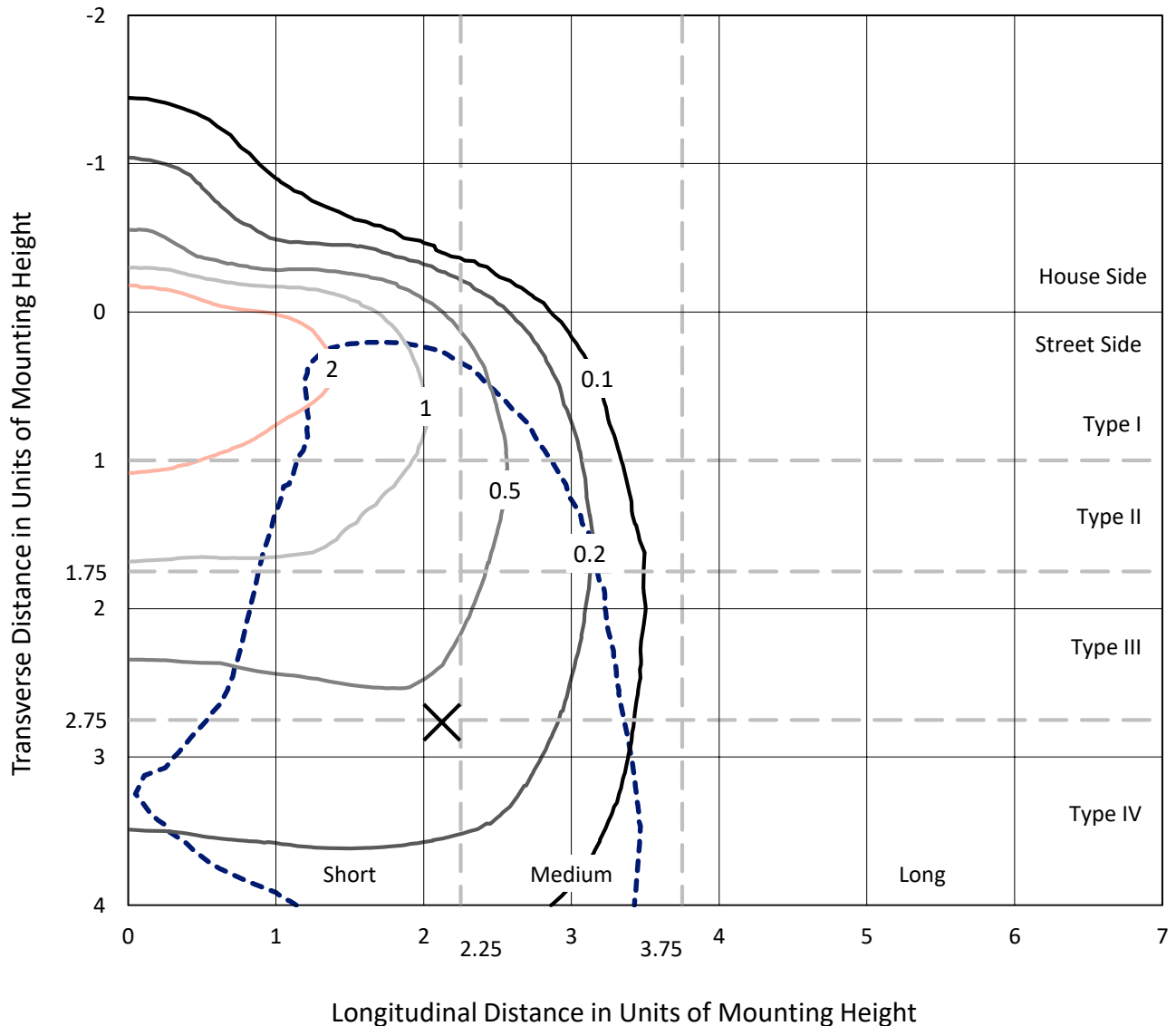
Lumens per Lamp: N/A  
Luminaire Lumens: 2345 lumens  
Efficiency: N/A  
Efficacy: 92.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B0 - U0 - G1  
  
Input Watts (W): 25.31  
Input Voltage (V): 120  
Input Current (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: P228359  
 CATALOG NUMBER: ISS-AF-450-LED-E1-SL4-7030

### Iso-Footcandle Lines of Horizontal Illumination

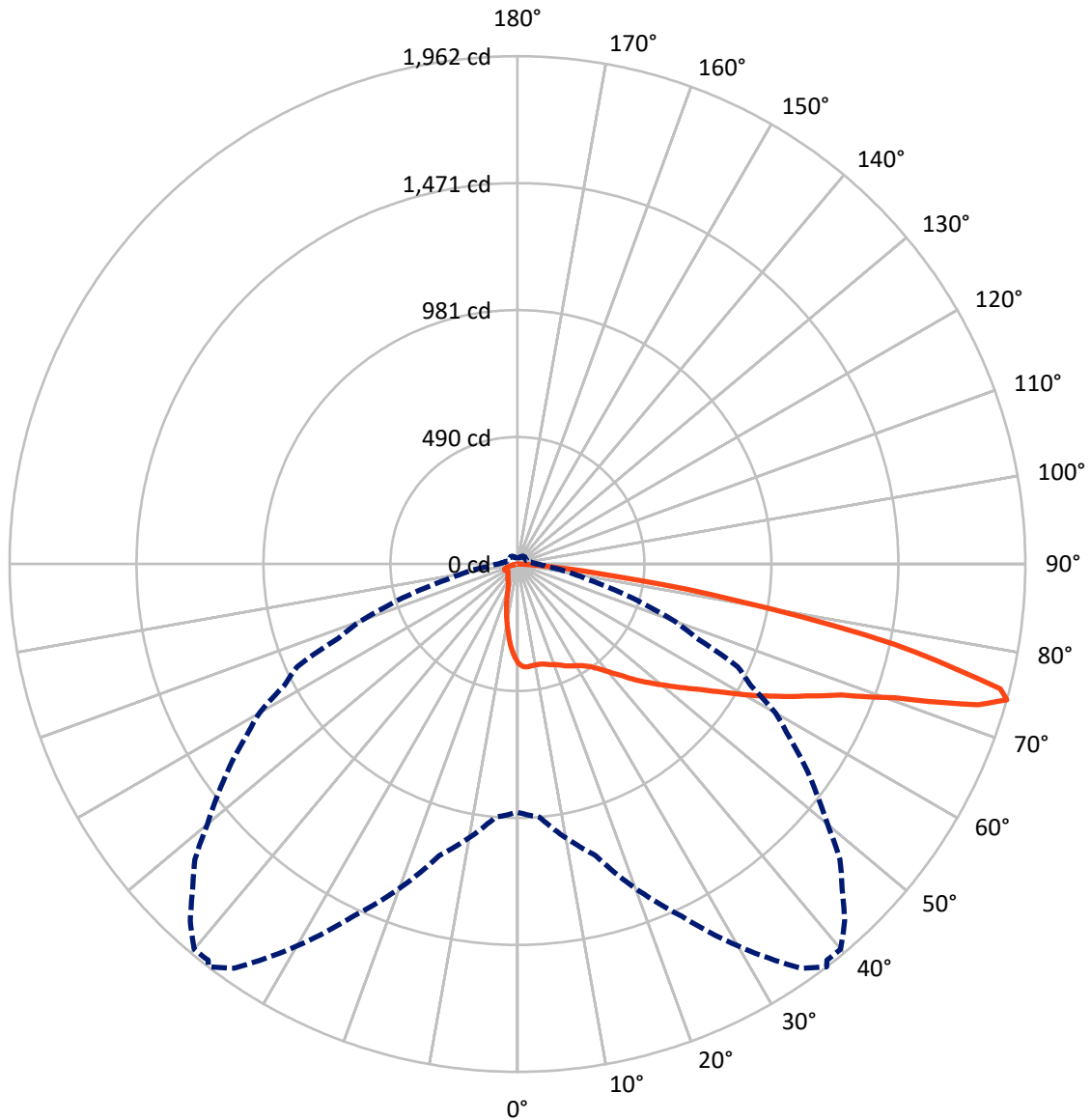
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4 fc  
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P228359  
CATALOG NUMBER: ISS-AF-450-LED-E1-SL4-7030

### Luminous Intensity Polar Plot



— Vertical Plane Through 37.5-Deg Lateral    - - - Horizontal Cone Through 74-Deg Vertical

REPORT NUMBER: P228359

CATALOG NUMBER: ISS-AF-450-LED-E1-SL4-7030

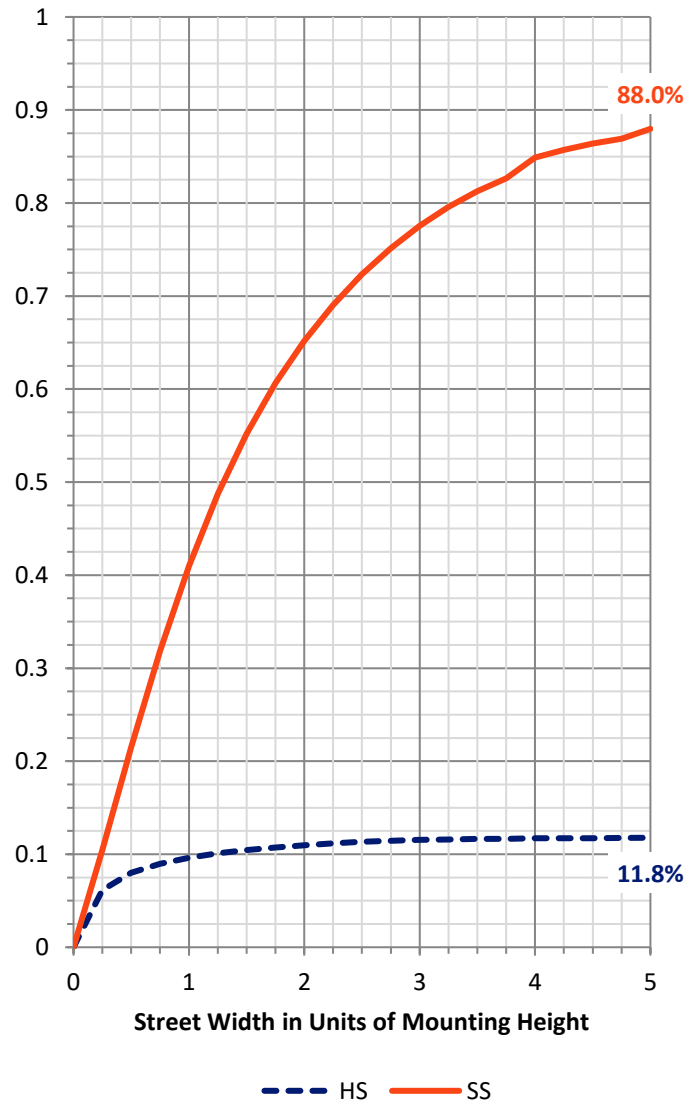
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	278.1	0.0	278.1
	% Fixture	11.9	0.0	11.9
<b>Street Side</b>	Lumens	2066.9	0.0	2066.9
	% Fixture	88.1	0.0	88.1
<b>Total</b>	Lumens	2345.0	0.0	2345.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.3	1.4
10°-20°	84.9	3.6
20°-30°	131.5	5.6
30°-40°	195.1	8.3
40°-50°	300.1	12.8
50°-60°	443.6	18.9
60°-70°	591.3	25.2
70°-80°	510.4	21.8
80°-90°	54.9	2.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	2345.0	100.0
0°-180°	2345.0	100.0



REPORT NUMBER: P228359

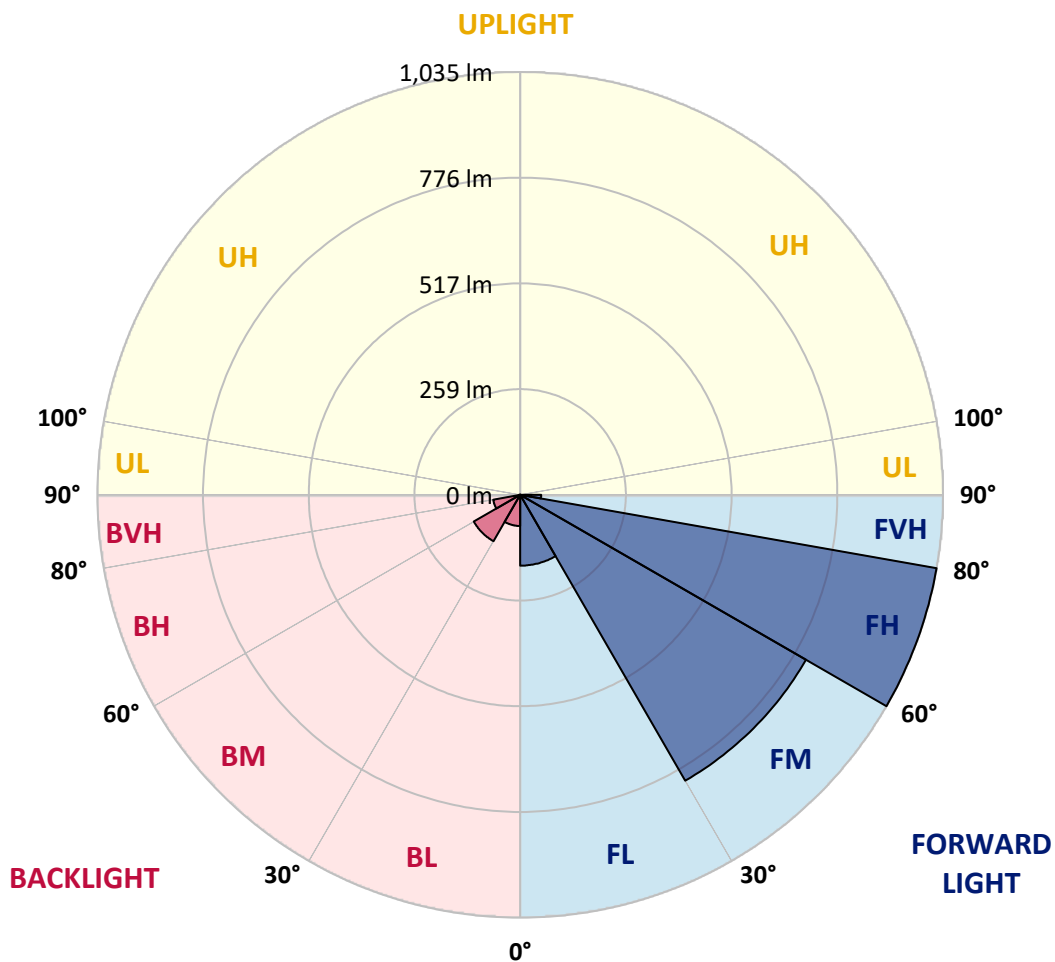
CATALOG NUMBER: ISS-AF-450-LED-E1-SL4-7030

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	173.4	7.4			
FM (30°-60°)	807.7	34.4			
FH (60°-80°)	1034.6	44.1			G1/1800
FVH (80°-90°)	51.3	2.2			G1/100
BL (0°-30°)	76.3	3.3	B0/110		
BM (30°-60°)	131.1	5.6	B0/220		
BH (60°-80°)	67.0	2.9	B0/110		G0/110
BVH (80°-90°)	3.6	0.2			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type IV Short





REPORT NUMBER: P228359

CATALOG NUMBER: ISS-AF-450-LED-E1-SL4-7030

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	37.5°	38°	40°	42.5°	45°	47.5°
0°	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7
2.5°	404.6	403.7	401.9	401.1	399.3	396.7	399.3	395.8	394.1	395.8	392.3
5°	411.6	410.7	408.9	405.4	403.7	399.3	401.9	397.6	396.7	398.4	394.1
7.5°	412.4	410.7	408.1	403.7	401.9	396.7	398.4	393.2	391.4	393.2	390.5
10°	409.8	408.9	406.3	399.3	397.6	395.8	394.9	391.4	390.5	389.7	388.8
12.5°	405.4	405.4	403.7	401.1	400.2	396.7	397.6	394.1	394.9	393.2	391.4
15°	403.7	402.8	404.6	406.3	406.3	401.1	404.6	401.9	400.2	401.1	398.4
17.5°	401.9	402.8	408.9	412.4	414.2	408.9	414.2	408.9	405.4	409.8	405.4
20°	401.1	403.7	414.2	422.1	422.9	414.2	422.9	414.2	414.2	419.4	411.6
22.5°	405.4	409.8	424.7	433.5	435.2	423.8	434.3	422.9	422.9	427.3	419.4
25°	419.4	423.8	440.5	450.1	448.3	436.1	445.7	434.3	433.5	438.7	428.2
27.5°	437.8	444.0	459.7	468.5	462.4	445.7	459.7	443.1	443.1	451.0	437.0
30°	464.1	468.5	482.5	483.4	475.5	455.3	471.1	452.7	450.1	464.1	446.6
32.5°	493.0	496.5	507.0	500.9	489.5	468.5	486.9	465.0	464.1	479.0	458.9
35°	523.6	527.2	530.7	520.1	509.6	486.9	507.0	485.1	484.2	500.9	481.6
37.5°	555.2	555.2	555.2	542.9	535.9	514.0	532.4	514.9	513.1	530.7	512.3
40°	580.6	582.3	579.7	568.3	564.8	549.0	564.8	549.0	551.7	567.4	552.5
42.5°	601.6	603.3	604.2	594.6	598.1	589.3	601.6	590.2	591.1	608.6	599.8
45°	622.6	621.7	628.7	626.1	636.6	637.5	644.5	640.1	641.9	655.0	652.4
47.5°	644.5	640.1	648.0	659.4	678.6	684.8	689.2	690.9	697.9	704.0	710.2
50°	665.5	661.1	666.4	691.8	722.4	735.6	736.4	745.2	753.1	761.8	774.1
52.5°	687.4	683.9	689.2	725.1	774.1	792.5	789.9	804.7	816.1	825.8	845.9
55°	710.2	706.7	711.9	765.3	829.3	854.7	852.0	873.0	894.9	898.4	921.2
57.5°	732.1	727.7	742.6	812.6	894.9	933.5	921.2	953.6	974.6	972.9	1004.4
60°	755.7	752.2	775.8	870.4	977.2	1027.2	1008.8	1051.7	1066.6	1060.4	1090.2
62.5°	778.5	777.6	817.0	937.8	1077.1	1125.2	1108.6	1146.2	1156.8	1148.9	1163.8
65°	799.5	804.7	861.7	1005.3	1173.4	1228.6	1205.8	1243.4	1255.7	1249.6	1275.0
67.5°	834.5	840.6	916.8	1091.1	1292.5	1349.4	1330.1	1369.5	1387.9	1386.2	1414.2
70°	886.2	897.6	998.3	1212.8	1473.7	1546.4	1535.9	1584.1	1628.7	1625.2	1653.3
72.5°	976.4	994.8	1132.2	1401.9	1771.5	1859.9	1847.7	1874.8	1866.9	1803.0	1751.3
74°	958.9	981.6	1165.5	1500.9	1905.5	1961.5	1941.4	1942.2	1870.4	1773.2	1690.0
75°	894.9	918.6	1117.4	1488.6	1895.8	1926.5	1897.6	1861.7	1775.0	1676.0	1573.6
77.5°	613.8	644.5	821.4	1202.3	1526.3	1484.3	1477.3	1408.9	1294.2	1183.0	1051.7
80°	314.4	336.3	424.7	628.7	905.4	863.4	877.4	822.3	726.8	646.2	512.3
82.5°	75.3	80.6	125.2	243.4	392.3	359.0	364.3	322.2	267.1	218.0	169.0
85°	39.4	44.7	61.3	67.4	103.3	106.8	104.2	100.7	82.3	69.2	60.4
87.5°	0.0	0.0	0.0	1.8	0.9	0.0	0.9	0.0	0.0	0.9	1.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P228359

CATALOG NUMBER: ISS-AF-450-LED-E1-SL4-7030

**CANDELA DISTRIBUTION (continued):**

	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7
2.5°	394.9	393.2	394.9	389.7	392.3	387.9	389.7	385.3	387.0	383.5	384.4
5°	396.7	392.3	394.9	390.5	391.4	387.9	387.0	385.3	384.4	381.8	380.0
7.5°	392.3	388.8	387.9	386.2	383.5	384.4	380.9	380.0	377.4	377.4	372.2
10°	387.9	388.8	383.5	385.3	380.9	381.8	375.7	377.4	373.0	376.5	368.7
12.5°	391.4	392.3	387.9	390.5	382.7	384.4	379.2	381.8	375.7	380.0	370.4
15°	399.3	398.4	396.7	396.7	388.8	392.3	386.2	387.9	381.8	387.0	376.5
17.5°	406.3	405.4	402.8	401.9	396.7	397.6	391.4	394.9	387.9	392.3	381.8
20°	414.2	409.8	408.9	408.1	401.9	401.9	397.6	399.3	392.3	397.6	385.3
22.5°	420.3	416.8	415.9	412.4	408.1	409.8	403.7	404.6	397.6	402.8	392.3
25°	430.0	425.6	425.6	420.3	417.7	416.8	413.3	415.9	408.9	412.4	402.8
27.5°	443.1	433.5	437.0	431.7	430.0	429.1	427.3	429.1	423.8	426.5	416.8
30°	455.3	443.1	448.3	441.3	444.8	441.3	444.0	441.3	441.3	441.3	437.0
32.5°	472.0	457.1	467.6	457.1	464.1	458.9	467.6	462.4	465.9	465.0	463.2
35°	495.6	478.1	493.0	479.0	491.2	484.2	496.5	493.9	500.9	497.4	500.9
37.5°	527.2	508.8	526.3	513.1	528.0	517.5	535.0	533.3	548.2	542.9	548.2
40°	566.6	553.4	566.6	556.9	572.7	568.3	586.7	587.6	604.2	601.6	607.7
42.5°	610.3	600.7	613.8	608.6	624.4	627.9	648.9	654.1	669.9	674.3	675.1
45°	657.6	655.9	666.4	671.6	687.4	697.9	716.3	729.4	746.9	756.6	754.8
47.5°	712.8	719.8	726.8	739.9	754.0	775.8	794.2	810.9	831.0	837.1	839.8
50°	775.0	787.2	793.4	811.7	825.8	852.9	878.3	899.3	921.2	918.6	920.3
52.5°	840.6	856.4	865.2	887.1	905.4	937.0	958.9	979.0	1006.1	999.1	996.5
55°	913.3	937.0	944.0	968.5	984.3	1016.7	1035.9	1070.9	1082.3	1075.3	1060.4
57.5°	990.4	1018.4	1026.3	1059.6	1067.4	1102.5	1119.1	1142.7	1152.4	1141.0	1121.7
60°	1077.9	1103.3	1109.5	1139.2	1149.8	1182.2	1194.4	1215.4	1222.4	1194.4	1167.3
62.5°	1165.5	1191.8	1195.3	1221.6	1232.1	1260.1	1274.1	1286.4	1282.9	1241.7	1207.5
65°	1265.3	1290.7	1299.5	1325.8	1331.9	1352.9	1364.3	1350.3	1342.4	1280.2	1241.7
67.5°	1423.8	1451.0	1454.5	1460.6	1459.7	1449.2	1444.0	1395.8	1360.8	1246.1	1190.9
70°	1632.2	1612.1	1572.7	1527.2	1493.9	1434.3	1399.3	1300.4	1226.8	1098.1	1005.3
72.5°	1669.9	1604.2	1507.0	1429.1	1348.5	1254.8	1179.5	1029.8	926.5	791.6	693.5
74°	1563.1	1456.2	1353.8	1244.3	1151.5	1014.9	938.7	749.6	647.1	510.5	391.4
75°	1434.3	1309.1	1193.5	1054.3	967.6	803.9	732.1	528.0	425.6	303.0	204.0
77.5°	915.1	765.3	655.0	493.9	426.5	294.2	215.4	134.0	99.0	86.7	75.3
80°	410.7	292.5	232.1	160.2	134.0	102.5	86.7	70.1	63.9	56.0	53.4
82.5°	131.4	105.1	99.8	89.3	89.3	71.8	61.3	48.2	43.8	37.7	34.2
85°	56.9	53.4	55.2	50.8	51.7	39.4	31.5	23.6	23.6	16.6	14.9
87.5°	1.8	0.0	0.9	0.0	1.8	0.0	0.9	0.0	0.9	0.0	0.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





REPORT NUMBER: P228359

CATALOG NUMBER: ISS-AF-450-LED-E1-SL4-7030

**CANDELA DISTRIBUTION (continued):**

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7
2.5°	380.9	382.7	381.8	378.3	377.4	374.8	368.7	369.5	366.0	368.7	364.3
5°	377.4	376.5	373.0	368.7	364.3	359.0	354.6	352.9	349.4	347.6	345.0
7.5°	372.2	368.7	362.5	355.5	349.4	342.4	338.9	332.8	331.0	324.9	324.0
10°	370.4	364.3	357.3	348.5	338.0	327.5	326.6	316.1	315.2	305.6	303.0
12.5°	373.9	366.0	357.3	346.8	334.5	319.6	319.6	303.9	303.0	289.8	285.5
15°	380.9	371.3	359.9	347.6	331.9	313.5	312.6	294.2	292.5	276.7	271.5
17.5°	387.0	373.9	363.4	346.8	328.4	307.4	303.0	284.6	281.1	262.7	255.7
20°	391.4	376.5	364.3	345.0	322.2	297.7	291.6	272.3	264.5	246.1	236.4
22.5°	396.7	382.7	366.0	344.1	318.7	289.8	276.7	259.2	247.8	228.5	215.4
25°	404.6	392.3	372.2	346.8	316.1	282.0	264.5	246.1	230.3	211.0	191.8
27.5°	416.8	404.6	380.9	350.3	315.2	274.1	254.8	232.1	212.8	191.8	169.9
30°	434.3	421.2	395.8	359.9	316.1	268.0	244.3	219.8	197.0	172.5	149.7
32.5°	457.1	446.6	415.1	370.4	319.6	262.7	234.7	206.7	178.6	155.0	134.9
35°	488.6	481.6	442.2	390.5	328.4	260.1	225.0	194.4	162.9	139.2	117.3
37.5°	535.0	525.4	481.6	419.4	342.4	258.3	218.0	179.5	149.7	124.3	106.0
40°	593.7	580.6	528.0	454.5	364.3	259.2	211.9	168.1	138.4	111.2	96.3
42.5°	663.8	644.5	584.9	497.4	386.2	260.9	208.4	157.6	129.6	100.7	89.3
45°	742.6	720.7	652.4	550.8	417.7	265.3	205.8	148.9	121.7	92.8	84.9
47.5°	819.6	797.7	721.6	604.2	450.1	273.2	207.5	143.6	116.5	88.4	79.7
50°	894.9	872.2	782.8	652.4	478.1	283.7	214.5	144.5	115.6	86.7	77.1
52.5°	961.5	933.5	835.4	690.0	498.3	290.7	220.7	147.1	116.5	85.8	76.2
55°	1028.0	992.1	877.4	719.8	510.5	291.6	220.7	148.0	117.3	85.8	75.3
57.5°	1077.9	1036.8	909.8	737.3	514.9	287.2	215.4	143.6	112.1	84.9	73.6
60°	1109.5	1065.7	932.6	748.7	508.8	268.8	187.4	127.0	99.0	78.8	68.3
62.5°	1135.7	1091.1	939.6	729.4	457.1	213.7	146.2	103.3	82.3	70.1	63.0
65°	1141.9	1088.5	890.6	644.5	357.3	148.0	106.0	81.4	67.4	62.2	56.9
67.5°	1049.1	985.1	748.7	504.4	243.4	101.6	78.8	66.6	57.8	55.2	53.4
70°	852.9	782.8	548.2	330.1	135.7	70.9	60.4	55.2	49.9	49.9	47.3
72.5°	549.9	477.2	281.1	141.0	69.2	54.3	49.0	47.3	42.9	43.8	41.2
74°	281.1	218.9	114.7	74.4	56.9	48.2	43.8	42.9	38.5	39.4	36.8
75°	142.7	113.0	80.6	62.2	52.5	45.5	40.3	40.3	35.0	35.9	33.3
77.5°	66.6	63.9	55.2	49.0	44.7	38.5	33.3	32.4	27.1	28.9	25.4
80°	46.4	46.4	42.9	41.2	36.8	31.5	25.4	25.4	20.1	21.0	18.4
82.5°	26.3	24.5	24.5	28.0	28.9	23.6	18.4	17.5	14.9	14.9	12.3
85°	11.4	13.1	15.8	19.3	21.0	18.4	13.1	12.3	7.9	7.9	4.4
87.5°	0.0	0.9	0.9	1.8	3.5	3.5	0.0	1.8	0.0	0.9	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



REPORT NUMBER: P228359

CATALOG NUMBER: ISS-AF-450-LED-E1-SL4-7030

**CANDELA DISTRIBUTION (continued):**

	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°
0°	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7	382.7
2.5°	366.0	361.7	364.3	359.9	361.7	357.3	359.0	356.4	353.8	350.3	349.4
5°	342.4	338.9	338.0	333.6	334.5	331.0	327.5	323.1	317.9	310.9	308.2
7.5°	316.1	315.2	309.1	306.5	303.0	299.5	293.3	286.3	275.8	266.2	260.1
10°	293.3	290.7	282.0	277.6	272.3	268.0	259.2	249.6	234.7	219.8	211.9
12.5°	274.1	270.6	259.2	253.9	246.1	240.8	230.3	218.0	197.0	176.0	166.4
15°	258.3	253.1	239.9	232.1	221.5	216.3	204.9	187.4	162.0	140.1	127.0
17.5°	239.9	232.9	218.9	209.3	198.8	189.1	177.8	159.4	130.5	110.3	97.2
20°	219.8	211.0	196.1	183.0	171.6	162.9	151.5	133.1	104.2	88.4	81.4
22.5°	198.8	184.8	171.6	160.2	147.1	138.4	127.0	110.3	88.4	79.7	77.1
25°	176.9	161.1	148.0	136.6	124.3	116.5	106.8	93.7	80.6	77.9	77.9
27.5°	155.0	139.2	127.0	115.6	105.1	99.8	91.1	82.3	76.2	77.1	77.9
30°	134.9	119.1	107.7	99.0	89.3	85.8	78.8	73.6	72.7	75.3	76.2
32.5°	117.3	103.3	92.8	85.8	77.9	76.2	70.1	67.4	70.1	73.6	72.7
35°	102.5	91.1	80.6	76.2	69.2	68.3	63.9	62.2	65.7	70.1	70.1
37.5°	91.1	80.6	72.7	69.2	63.9	63.0	59.5	57.8	60.4	66.6	68.3
40°	81.4	75.3	67.4	63.9	60.4	58.7	56.9	55.2	56.0	63.9	64.8
42.5°	75.3	70.9	63.9	62.2	57.8	56.9	54.3	52.5	53.4	59.5	62.2
45°	70.9	67.4	61.3	60.4	56.0	55.2	52.5	50.8	51.7	56.9	59.5
47.5°	67.4	63.9	58.7	56.9	54.3	53.4	51.7	49.9	49.9	55.2	57.8
50°	65.7	62.2	56.9	55.2	52.5	51.7	49.9	48.2	49.0	53.4	55.2
52.5°	64.8	60.4	56.0	53.4	51.7	49.9	48.2	46.4	47.3	51.7	53.4
55°	64.8	59.5	56.0	53.4	50.8	48.2	47.3	44.7	46.4	49.9	52.5
57.5°	64.8	59.5	56.0	53.4	51.7	49.0	47.3	45.5	46.4	49.9	52.5
60°	63.0	58.7	56.9	54.3	53.4	50.8	49.9	48.2	48.2	52.5	56.9
62.5°	60.4	57.8	56.9	55.2	55.2	53.4	53.4	51.7	51.7	56.9	61.3
65°	56.9	55.2	56.0	55.2	55.2	55.2	54.3	54.3	54.3	58.7	63.9
67.5°	53.4	52.5	53.4	53.4	54.3	53.4	54.3	53.4	53.4	57.8	63.0
70°	48.2	48.2	49.0	48.2	49.0	49.0	49.9	49.9	49.9	52.5	57.8
72.5°	42.0	41.2	42.0	41.2	42.9	41.2	42.9	43.8	42.9	43.8	46.4
74°	37.7	36.8	37.7	36.8	38.5	36.8	37.7	37.7	36.8	29.8	25.4
75°	34.2	33.3	34.2	33.3	35.0	33.3	35.0	34.2	32.4	21.9	21.0
77.5°	27.1	24.5	27.1	24.5	26.3	23.6	25.4	21.9	16.6	15.8	15.8
80°	20.1	17.5	19.3	16.6	15.8	12.3	13.1	12.3	11.4	12.3	12.3
82.5°	12.3	8.8	10.5	7.9	9.6	7.0	8.8	7.9	7.0	7.0	7.0
85°	6.1	4.4	6.1	3.5	5.3	3.5	4.4	4.4	2.6	2.6	2.6
87.5°	0.9	0.0	1.8	0.0	1.8	0.0	0.9	0.9	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

REPORT NUMBER: P228359

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	175°	180°
0°	382.7	382.7
2.5°	346.8	347.6
5°	303.9	306.5
7.5°	256.6	258.3
10°	206.7	208.4
12.5°	159.4	161.1
15°	120.0	118.2
17.5°	91.9	90.2
20°	77.9	77.9
22.5°	76.2	75.3
25°	77.1	76.2
27.5°	77.1	76.2
30°	75.3	74.4
32.5°	72.7	71.8
35°	70.1	70.1
37.5°	68.3	69.2
40°	65.7	66.6
42.5°	63.0	63.9
45°	60.4	61.3
47.5°	57.8	57.8
50°	54.3	54.3
52.5°	53.4	53.4
55°	53.4	53.4
57.5°	55.2	55.2
60°	60.4	61.3
62.5°	70.9	71.8
65°	81.4	83.2
67.5°	82.3	84.9
70°	79.7	82.3
72.5°	55.2	55.2
74°	24.5	23.6
75°	21.0	20.1
77.5°	15.8	15.8
80°	11.4	10.5
82.5°	6.1	6.1
85°	1.8	1.8
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)