

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: P228099

Luminaire Tested: **ISS-AF-450-LED-E1-SL2-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P228099
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29761)
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-SL2-7030
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE II W/SPILL CONTROL
Light Source: (16) 3000K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2508 lumens
Efficiency: N/A
Efficacy: 99.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

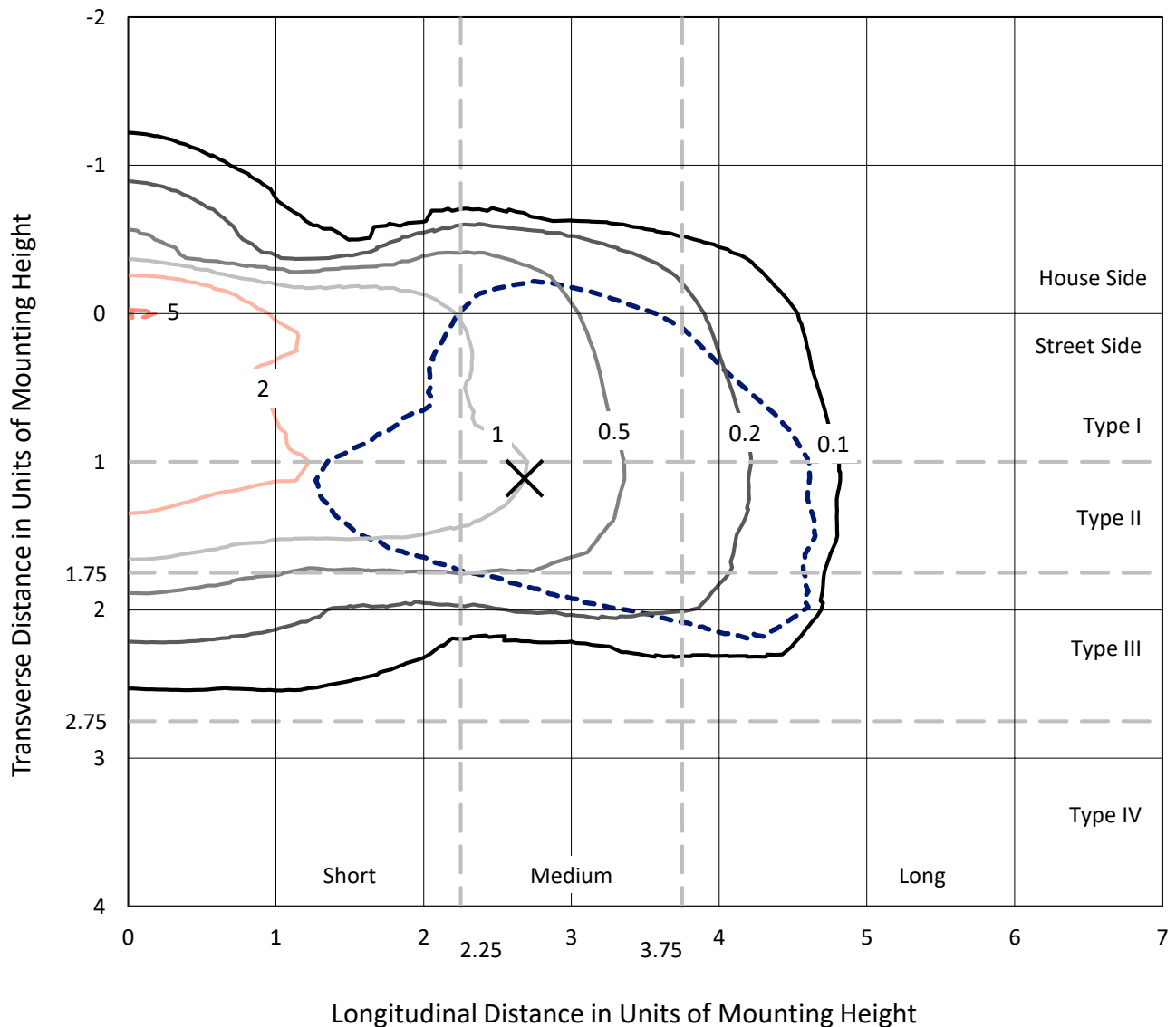
Input Watts (W): 25.31
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P228099
 CATALOG NUMBER: ISS-AF-450-LED-E1-SL2-7030

Iso-Footcandle Lines of Horizontal Illumination

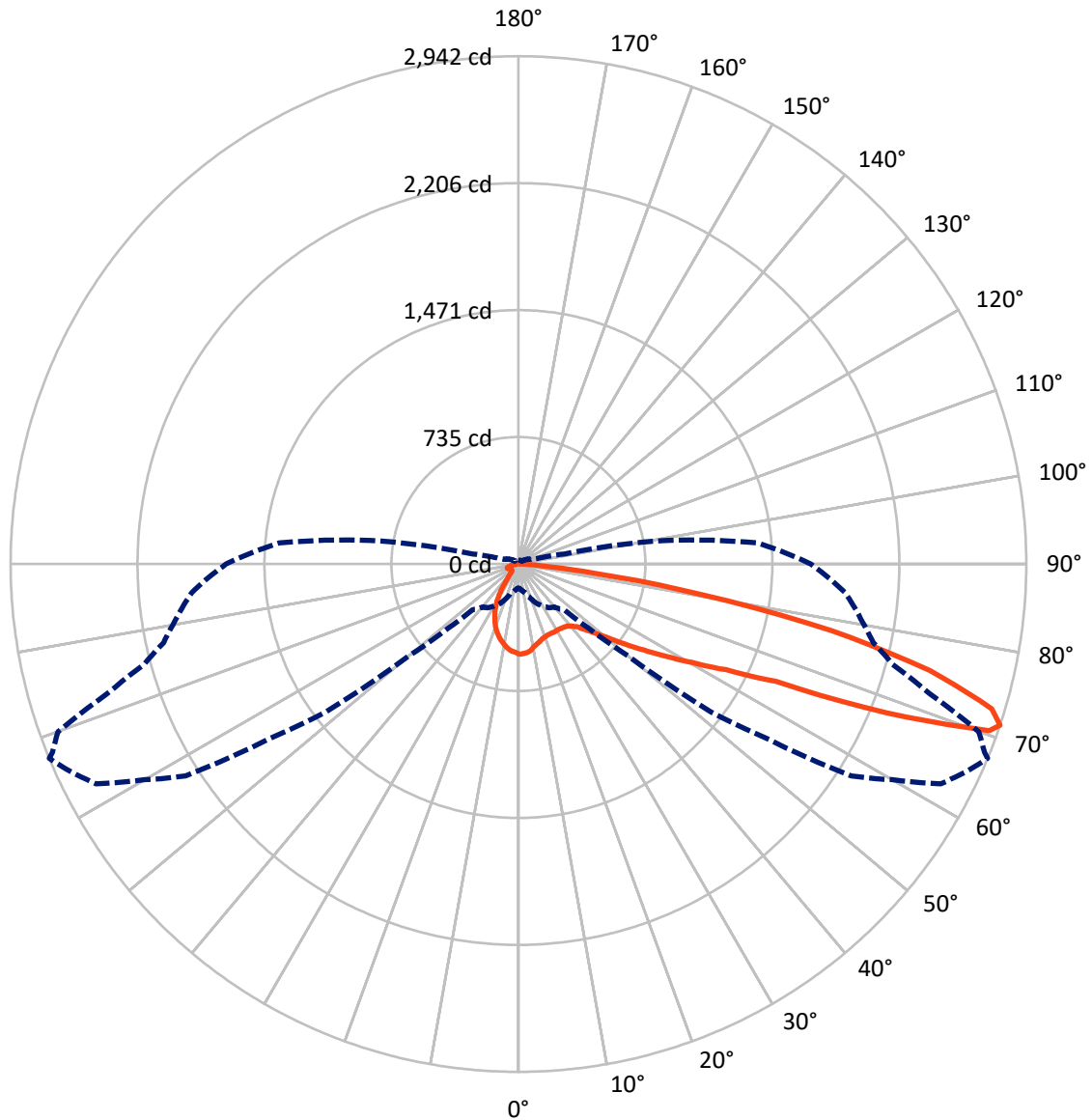
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.2 fc
 Type III - Medium - Non-Cutoff

REPORT NUMBER: P228099
CATALOG NUMBER: ISS-AF-450-LED-E1-SL2-7030

Luminous Intensity Polar Plot



— Vertical Plane Through 67.5-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

REPORT NUMBER: P228099

CATALOG NUMBER: ISS-AF-450-LED-E1-SL2-7030

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	422.6	0.0	422.6
	% Fixture	16.9	0.0	16.9
Street Side	Lumens	2085.4	0.0	2085.4
	% Fixture	83.1	0.0	83.1
Total	Lumens	2508.0	0.0	2508.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.6	1.8
10°-20°	109.1	4.4
20°-30°	148.4	5.9
30°-40°	202.8	8.1
40°-50°	305.6	12.2
50°-60°	484.2	19.3
60°-70°	641.1	25.6
70°-80°	510.7	20.4
80°-90°	60.5	2.4
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°	2508.0	100.0
0°-180°	2508.0	100.0

Coefficient of Utilization



REPORT NUMBER: P228099

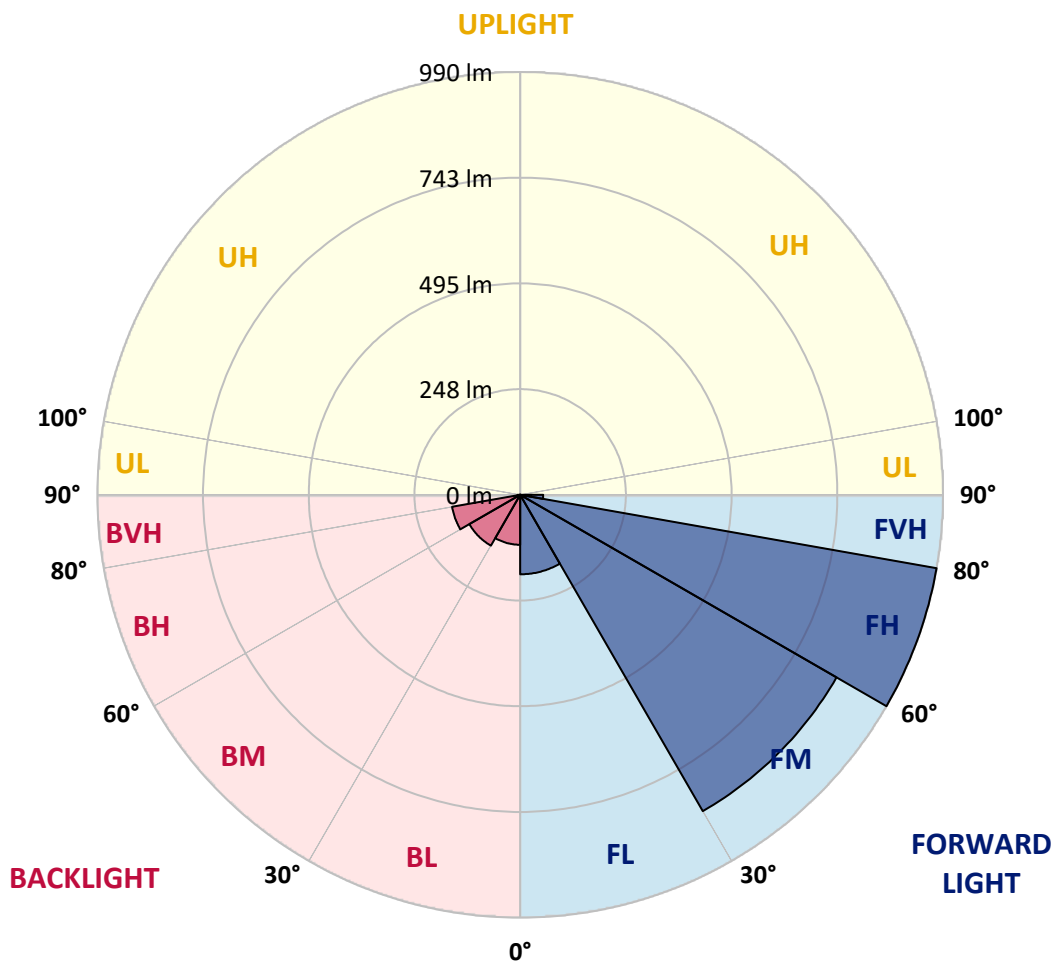
CATALOG NUMBER: ISS-AF-450-LED-E1-SL2-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	186.1	7.4			
FM (30°-60°)	855.3	34.1			
FH (60°-80°)	990.0	39.5			G1/1800
FVH (80°-90°)	54.0	2.2			G1/100
BL (0°-30°)	117.0	4.7	B1/500		
BM (30°-60°)	137.3	5.5	B0/220		
BH (60°-80°)	161.8	6.4	B1/500		G1/500
BVH (80°-90°)	6.6	0.3			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type III Medium





REPORT NUMBER: P228099

CATALOG NUMBER: ISS-AF-450-LED-E1-SL2-7030

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
0°	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6
2.5°	513.0	511.3	511.3	513.9	518.3	514.8	517.4	517.4	518.3	520.9	521.8
5°	475.4	471.9	475.4	478.9	488.5	486.7	489.4	492.0	497.3	498.1	505.1
7.5°	441.2	439.5	442.1	449.1	461.4	457.9	461.4	464.9	471.0	473.6	480.6
10°	415.0	412.3	415.8	421.1	433.3	432.5	434.2	438.6	445.6	447.4	456.1
12.5°	395.7	395.7	397.5	404.5	415.0	414.1	419.3	422.0	428.1	429.8	439.5
15°	386.1	383.4	386.9	393.1	403.6	403.6	407.1	409.7	418.5	419.3	428.1
17.5°	377.3	378.2	379.1	386.1	395.7	393.9	398.3	400.1	409.7	408.0	418.5
20°	377.3	379.1	378.2	382.6	389.6	386.1	391.3	392.2	402.7	400.1	411.5
22.5°	387.8	389.6	386.9	386.1	388.7	386.1	388.7	390.4	398.3	396.6	407.1
25°	406.2	409.7	406.2	400.1	397.5	390.4	392.2	394.8	401.0	396.6	406.2
27.5°	435.1	437.7	431.6	425.5	413.2	405.3	402.7	401.8	408.8	401.8	409.7
30°	468.4	471.9	466.6	455.2	437.7	424.6	419.3	416.7	421.1	410.6	418.5
32.5°	504.3	507.8	504.3	495.5	471.9	452.6	445.6	439.5	443.0	429.0	432.5
35°	541.0	544.5	548.0	542.8	512.1	490.2	478.9	473.6	472.7	455.2	456.1
37.5°	573.4	576.9	588.3	593.5	565.5	535.8	525.3	513.9	514.8	490.2	490.2
40°	612.8	617.2	632.1	644.3	625.9	590.0	577.8	565.5	565.5	533.1	534.0
42.5°	666.2	671.5	681.1	697.7	691.6	654.8	641.7	625.1	626.8	588.3	587.4
45°	741.5	745.0	745.0	755.5	756.4	721.4	712.6	696.0	699.5	650.5	653.1
47.5°	839.5	835.2	817.7	823.8	830.8	794.0	786.1	775.6	780.0	727.5	732.7
50°	930.6	927.1	891.2	892.9	918.3	880.7	878.1	864.9	871.1	818.5	826.4
52.5°	964.7	958.6	922.7	942.0	1012.9	991.9	996.3	990.1	993.6	937.6	935.8
55°	926.2	926.2	904.3	939.3	1083.8	1095.2	1131.1	1145.1	1160.0	1103.9	1091.7
57.5°	819.4	826.4	829.9	892.1	1072.4	1121.4	1189.7	1249.3	1325.4	1321.9	1340.3
60°	642.6	654.8	675.0	776.5	1023.4	1103.9	1192.4	1281.6	1386.7	1454.1	1553.9
62.5°	450.9	461.4	478.0	548.0	880.7	1019.0	1146.8	1284.3	1418.2	1524.1	1655.5
65°	306.4	316.9	351.9	390.4	531.4	732.7	928.0	1155.6	1359.6	1556.5	1733.4
67.5°	220.6	226.7	253.9	318.7	353.7	390.4	463.1	731.0	982.2	1378.8	1637.1
70°	165.5	171.6	196.1	267.9	310.8	320.4	337.9	385.2	449.1	774.8	1113.6
71°	138.3	147.1	176.8	252.1	309.0	316.9	324.8	352.8	373.8	548.0	826.4
72.5°	97.2	103.3	131.3	232.9	296.8	315.2	333.5	332.7	330.9	373.8	499.9
75°	62.2	62.2	62.2	131.3	316.9	305.5	312.5	350.2	330.9	314.3	329.2
77.5°	49.0	48.1	45.5	65.7	247.7	309.9	328.3	337.9	356.3	328.3	313.4
80°	36.8	35.9	35.9	41.1	114.7	200.5	277.5	308.2	321.3	349.3	318.7
82.5°	19.3	19.3	21.0	24.5	42.9	70.0	143.6	236.4	264.4	266.1	268.8
85°	6.1	5.3	7.0	11.4	18.4	22.8	40.3	95.4	141.8	171.6	181.2
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	3.5	6.1	7.9
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: P228099

CATALOG NUMBER: ISS-AF-450-LED-E1-SL2-7030

CANDELA DISTRIBUTION (continued):

	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	68°	70°	72.5°	75°
0°	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6
2.5°	519.1	522.6	520.0	523.5	519.1	524.4	520.0	522.6	523.5	520.0	524.4
5°	500.8	511.3	507.8	515.6	512.1	519.1	515.6	522.6	522.6	520.0	526.1
7.5°	478.0	488.5	489.4	497.3	497.3	506.0	506.0	513.0	516.5	516.5	525.3
10°	455.2	464.9	466.6	475.4	477.1	487.6	487.6	497.3	504.3	506.9	517.4
12.5°	437.7	450.0	450.0	459.6	457.9	473.6	475.4	484.1	491.1	497.3	511.3
15°	427.2	438.6	438.6	448.2	446.5	462.2	464.9	473.6	484.1	487.6	506.9
17.5°	416.7	428.1	425.5	438.6	437.7	455.2	453.5	466.6	475.4	480.6	502.5
20°	408.0	421.1	419.3	432.5	429.0	448.2	448.2	461.4	470.1	474.5	499.9
22.5°	403.6	417.6	414.1	427.2	424.6	443.8	443.8	457.0	466.6	473.6	499.0
25°	403.6	415.8	412.3	427.2	422.8	443.8	443.0	456.1	465.7	471.9	499.9
27.5°	405.3	417.6	415.0	429.0	425.5	443.8	445.6	457.0	466.6	473.6	501.6
30°	411.5	422.8	416.7	429.8	427.2	444.7	443.8	456.1	465.7	474.5	501.6
32.5°	424.6	430.7	422.8	434.2	429.0	446.5	446.5	455.2	466.6	477.1	501.6
35°	443.0	447.4	435.1	443.0	433.3	450.9	450.0	459.6	468.4	477.1	503.4
37.5°	469.2	474.5	455.2	462.2	446.5	460.5	457.0	468.4	477.1	482.4	512.1
40°	508.6	510.4	485.0	490.2	468.4	480.6	471.9	487.6	492.0	495.5	525.3
42.5°	556.8	558.5	526.1	529.6	501.6	512.1	497.3	513.9	520.0	519.1	551.5
45°	616.3	617.2	580.4	583.0	550.7	559.4	541.0	555.0	559.4	556.8	590.0
47.5°	681.1	688.1	647.0	650.5	616.3	620.7	597.9	613.7	613.7	611.1	645.2
50°	766.9	777.4	729.2	734.5	695.1	698.6	672.3	689.0	687.2	680.2	718.7
52.5°	873.7	883.3	832.5	839.5	797.5	799.3	766.9	786.1	780.9	769.5	814.2
55°	1004.1	1005.0	957.7	963.9	921.8	919.2	878.9	902.6	894.7	878.9	920.1
57.5°	1213.4	1188.0	1110.1	1108.3	1062.8	1059.3	1007.6	1036.5	1023.4	990.1	1044.4
60°	1550.4	1558.3	1359.6	1328.9	1244.0	1228.2	1160.0	1193.2	1177.5	1123.2	1176.6
62.5°	1740.4	1865.6	1853.3	1743.0	1524.1	1464.6	1349.1	1388.4	1347.3	1267.6	1317.5
65°	1881.3	2051.2	2149.2	2255.1	2157.1	1913.7	1640.6	1695.7	1595.1	1443.6	1491.8
67.5°	1933.8	2138.7	2345.3	2495.9	2598.3	2616.7	2300.7	2315.5	2067.8	1764.9	1771.0
70°	1659.0	1961.0	2365.4	2556.3	2759.4	2859.2	2892.5	2876.7	2716.5	2287.5	2123.8
71°	1406.0	1771.9	2284.9	2497.6	2757.6	2853.9	2941.5	2911.7	2837.3	2495.0	2243.8
72.5°	952.5	1412.1	2049.4	2319.0	2665.7	2735.8	2867.1	2814.5	2798.8	2650.0	2355.8
75°	448.2	703.9	1333.3	1741.3	2256.0	2323.4	2460.9	2396.1	2354.9	2405.7	2241.1
77.5°	330.0	384.3	731.9	1082.0	1640.6	1736.0	1854.2	1774.5	1722.0	1772.8	1658.1
80°	300.3	302.0	379.1	570.8	978.7	1035.6	1080.3	1015.5	935.8	932.3	826.4
82.5°	276.6	261.8	246.0	302.0	501.6	477.1	441.2	408.8	317.8	254.8	183.8
85°	176.0	192.6	175.1	165.5	199.6	164.6	130.4	125.2	88.4	59.5	55.2
87.5°	12.3	14.0	16.6	19.3	23.6	19.3	12.3	14.9	8.8	0.0	4.4
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: P228099

CATALOG NUMBER: ISS-AF-450-LED-E1-SL2-7030

CANDELA DISTRIBUTION (continued):

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6
2.5°	518.3	522.6	524.4	523.5	521.8	520.0	513.9	518.3	512.1	516.5	511.3
5°	520.9	527.0	527.9	526.1	524.4	520.9	510.4	516.5	509.5	513.0	505.1
7.5°	520.0	529.6	530.5	528.8	525.3	519.1	508.6	513.0	501.6	504.3	493.7
10°	515.6	529.6	530.5	526.1	520.9	511.3	499.0	500.8	489.4	489.4	475.4
12.5°	511.3	527.9	532.3	526.1	517.4	504.3	490.2	488.5	475.4	474.5	458.7
15°	511.3	529.6	535.8	527.9	514.8	496.4	479.7	476.2	461.4	457.0	439.5
17.5°	510.4	529.6	538.4	527.9	512.1	488.5	467.5	464.0	444.7	437.7	417.6
20°	509.5	531.4	540.1	526.1	504.3	478.9	455.2	448.2	427.2	415.8	392.2
22.5°	508.6	534.9	541.9	524.4	499.0	466.6	442.1	429.8	405.3	390.4	362.4
25°	513.0	539.3	542.8	522.6	491.1	453.5	427.2	410.6	383.4	364.2	330.9
27.5°	514.8	543.6	544.5	519.1	481.5	439.5	411.5	388.7	358.1	334.4	296.8
30°	520.0	544.5	541.9	512.1	470.1	422.0	393.1	365.1	330.9	300.3	255.6
32.5°	521.8	547.2	540.1	504.3	458.7	404.5	372.1	339.7	298.5	262.6	208.4
35°	525.3	548.9	538.4	499.9	446.5	386.1	350.2	313.4	266.1	220.6	158.5
37.5°	530.5	556.8	542.8	498.1	440.3	370.3	325.7	286.3	227.6	174.2	105.1
40°	543.6	572.5	550.7	500.8	436.0	357.2	302.0	258.3	183.8	128.7	72.7
42.5°	569.9	599.7	570.8	513.9	438.6	345.8	277.5	228.5	139.2	91.9	60.4
45°	609.3	634.7	604.1	535.8	449.1	339.7	254.8	197.8	99.8	73.5	55.2
47.5°	667.1	691.6	653.1	570.8	467.5	337.0	231.1	165.5	77.0	66.5	53.4
50°	743.2	772.1	724.0	625.9	501.6	339.7	205.7	134.8	67.4	64.8	52.5
52.5°	836.9	864.9	816.8	707.4	557.7	354.6	178.6	117.3	63.9	63.9	51.7
55°	942.8	982.2	935.0	820.3	644.3	386.9	162.0	111.2	63.9	64.8	50.8
57.5°	1068.0	1101.3	1059.3	928.8	748.5	440.3	163.7	117.3	63.9	64.8	49.9
60°	1190.6	1231.7	1183.6	1067.2	867.6	520.9	199.6	148.8	66.5	67.4	49.9
62.5°	1318.4	1349.9	1310.5	1188.0	1002.4	620.7	271.4	215.4	77.0	79.7	53.4
65°	1458.5	1510.1	1469.0	1368.3	1193.2	780.0	408.0	323.0	113.8	92.8	58.7
67.5°	1701.0	1722.0	1701.9	1609.9	1416.5	911.3	485.9	328.3	113.8	90.2	65.7
70°	2029.3	1982.0	1891.8	1720.2	1440.1	817.7	348.4	200.5	97.2	85.8	69.2
71°	2105.4	2032.8	1899.7	1693.1	1391.1	738.0	270.5	158.5	91.0	84.0	69.2
72.5°	2151.8	2043.3	1841.9	1613.4	1294.8	581.3	178.6	124.3	83.2	79.7	66.5
75°	2091.4	1891.0	1626.6	1396.3	1060.2	302.0	112.1	94.5	70.9	69.2	57.8
77.5°	1660.7	1484.7	1200.2	1014.6	682.0	133.9	80.5	71.8	56.0	54.3	44.6
80°	774.8	621.6	364.2	312.5	214.5	78.8	55.2	49.0	40.3	38.5	31.5
82.5°	140.9	105.9	82.3	79.7	71.8	46.4	32.4	29.8	25.4	24.5	20.1
85°	48.1	46.4	35.0	35.0	35.9	24.5	18.4	17.5	13.1	13.1	8.8
87.5°	0.9	4.4	4.4	6.1	5.3	4.4	1.8	2.6	0.9	2.6	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: P228099

CATALOG NUMBER: ISS-AF-450-LED-E1-SL2-7030

CANDELA DISTRIBUTION (continued):

	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°
0°	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6	522.6
2.5°	515.6	508.6	514.8	508.6	512.1	505.1	509.5	506.9	506.9	504.3	502.5
5°	507.8	499.0	503.4	496.4	499.9	489.4	492.0	487.6	478.9	473.6	466.6
7.5°	496.4	483.2	486.7	476.2	478.9	464.9	467.5	459.6	443.0	432.5	422.0
10°	476.2	464.0	464.9	451.7	450.9	436.8	434.2	423.7	399.2	381.7	367.7
12.5°	456.1	442.1	440.3	424.6	422.0	405.3	401.8	385.2	349.3	315.2	293.3
15°	435.1	417.6	412.3	395.7	386.1	372.1	362.4	337.9	286.3	241.6	212.7
17.5°	411.5	388.7	380.8	361.6	347.5	326.5	312.5	279.3	212.7	164.6	144.4
20°	380.8	356.3	342.3	317.8	299.4	274.0	256.5	213.6	141.8	117.3	114.7
22.5°	346.7	317.8	300.3	269.6	246.9	219.7	191.7	144.4	100.7	95.4	98.9
25°	310.8	274.9	252.1	214.5	183.8	152.3	126.1	96.3	82.3	81.4	86.7
27.5°	267.9	226.7	194.3	149.7	121.7	97.2	85.8	76.2	70.0	70.9	76.2
30°	220.6	167.2	133.1	93.7	81.4	70.9	69.2	65.7	63.0	64.8	68.3
32.5°	164.6	106.8	85.8	67.4	66.5	60.4	62.2	60.4	59.5	60.4	63.0
35°	111.2	70.9	67.4	57.8	59.5	55.2	57.8	56.9	56.0	56.0	57.8
37.5°	77.0	58.7	60.4	53.4	56.0	52.5	55.2	54.3	53.4	52.5	53.4
40°	63.9	53.4	56.0	50.8	53.4	49.9	52.5	51.7	50.8	49.0	49.0
42.5°	58.7	50.8	53.4	48.1	51.7	47.3	50.8	49.0	47.3	45.5	46.4
45°	56.9	49.0	51.7	46.4	49.9	45.5	48.1	47.3	43.8	42.9	43.8
47.5°	55.2	48.1	50.8	45.5	48.1	43.8	46.4	44.6	41.1	40.3	41.1
50°	54.3	46.4	49.0	43.8	46.4	42.9	44.6	42.9	39.4	38.5	38.5
52.5°	53.4	45.5	48.1	42.0	44.6	39.4	42.0	40.3	36.8	35.9	35.9
55°	53.4	44.6	46.4	40.3	42.9	37.6	39.4	37.6	35.9	34.1	34.1
57.5°	52.5	42.9	45.5	38.5	40.3	35.9	37.6	35.9	33.3	32.4	32.4
60°	52.5	42.0	44.6	37.6	39.4	34.1	35.9	34.1	31.5	30.6	30.6
62.5°	55.2	43.8	45.5	38.5	39.4	34.1	35.0	32.4	29.8	29.8	28.9
65°	60.4	49.0	49.0	40.3	40.3	34.1	35.0	31.5	28.0	28.0	28.0
67.5°	65.7	54.3	53.4	42.9	42.0	34.1	34.1	29.8	26.3	26.3	26.3
70°	69.2	56.9	55.2	43.8	42.0	33.3	32.4	28.0	24.5	24.5	24.5
71°	68.3	56.9	54.3	42.9	40.3	31.5	31.5	27.1	23.6	23.6	22.8
72.5°	64.8	53.4	50.8	40.3	38.5	29.8	29.8	25.4	21.9	21.9	21.0
75°	55.2	45.5	42.9	34.1	32.4	26.3	25.4	21.0	19.3	18.4	18.4
77.5°	42.9	35.9	33.3	27.1	26.3	21.0	20.1	17.5	15.8	15.8	14.9
80°	30.6	25.4	23.6	18.4	16.6	14.0	14.9	13.1	12.3	12.3	11.4
82.5°	18.4	13.1	13.1	10.5	11.4	8.8	9.6	9.6	8.8	7.0	7.0
85°	9.6	6.1	7.9	4.4	6.1	2.6	4.4	3.5	3.5	2.6	2.6
87.5°	1.8	0.0	0.9	0.0	0.9	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

REPORT NUMBER: P228099

CATALOG NUMBER: ISS-AF-450-LED-E1-SL2-7030

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	175°	180°
0°	522.6	522.6
2.5°	497.3	498.1
5°	463.1	464.9
7.5°	414.1	416.7
10°	355.4	357.2
12.5°	280.1	280.1
15°	196.1	197.8
17.5°	137.4	138.3
20°	115.6	116.4
22.5°	103.3	104.2
25°	91.9	92.8
27.5°	79.7	80.5
30°	71.8	72.7
32.5°	64.8	65.7
35°	58.7	58.7
37.5°	54.3	54.3
40°	49.9	49.9
42.5°	47.3	47.3
45°	44.6	44.6
47.5°	42.0	42.0
50°	39.4	40.3
52.5°	36.8	36.8
55°	34.1	34.1
57.5°	31.5	32.4
60°	29.8	29.8
62.5°	28.0	28.0
65°	27.1	27.1
67.5°	25.4	25.4
70°	23.6	23.6
71°	22.8	22.8
72.5°	21.0	21.0
75°	18.4	17.5
77.5°	14.9	14.9
80°	11.4	10.5
82.5°	7.0	6.1
85°	2.6	1.8
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)