

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: P227785

Luminaire Tested: **ISC-AF-450-LED-E1-T3**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P227785  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29759)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: ISC-AF-450-LED-E1-T3  
Description: IMPACT ELITE LED CYLINDER LUMINAIRE  
LIGHT SQUARE WITH ACCULED OPTICS-TYPE III  
Light Source: (16) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3062.7 lumens  
Efficiency: N/A  
Efficacy: 121.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium - Semi-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

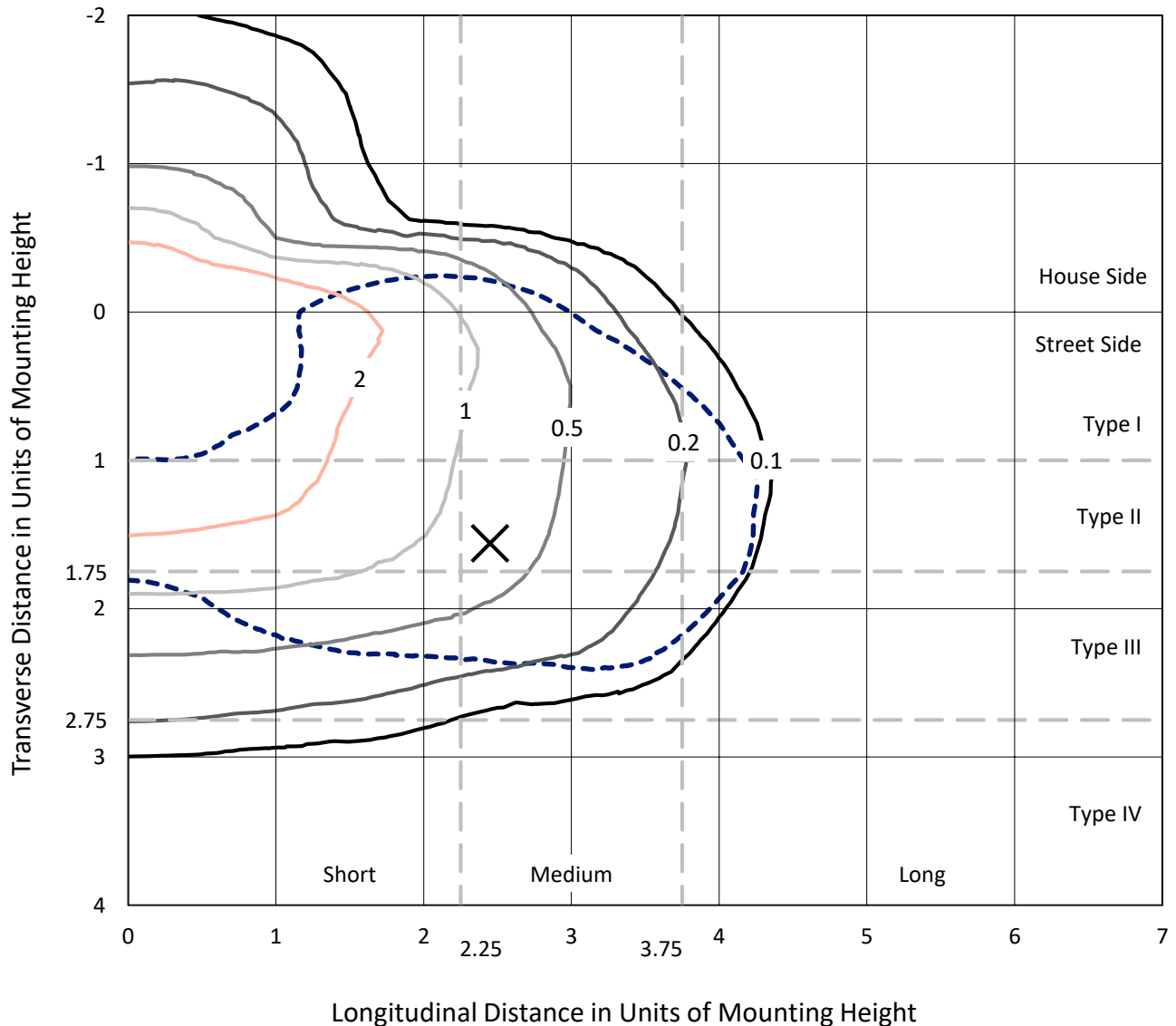


REPORT NUMBER: P227785

CATALOG NUMBER: ISC-AF-450-LED-E1-T3

### Iso-Footcandle Lines of Horizontal Illumination

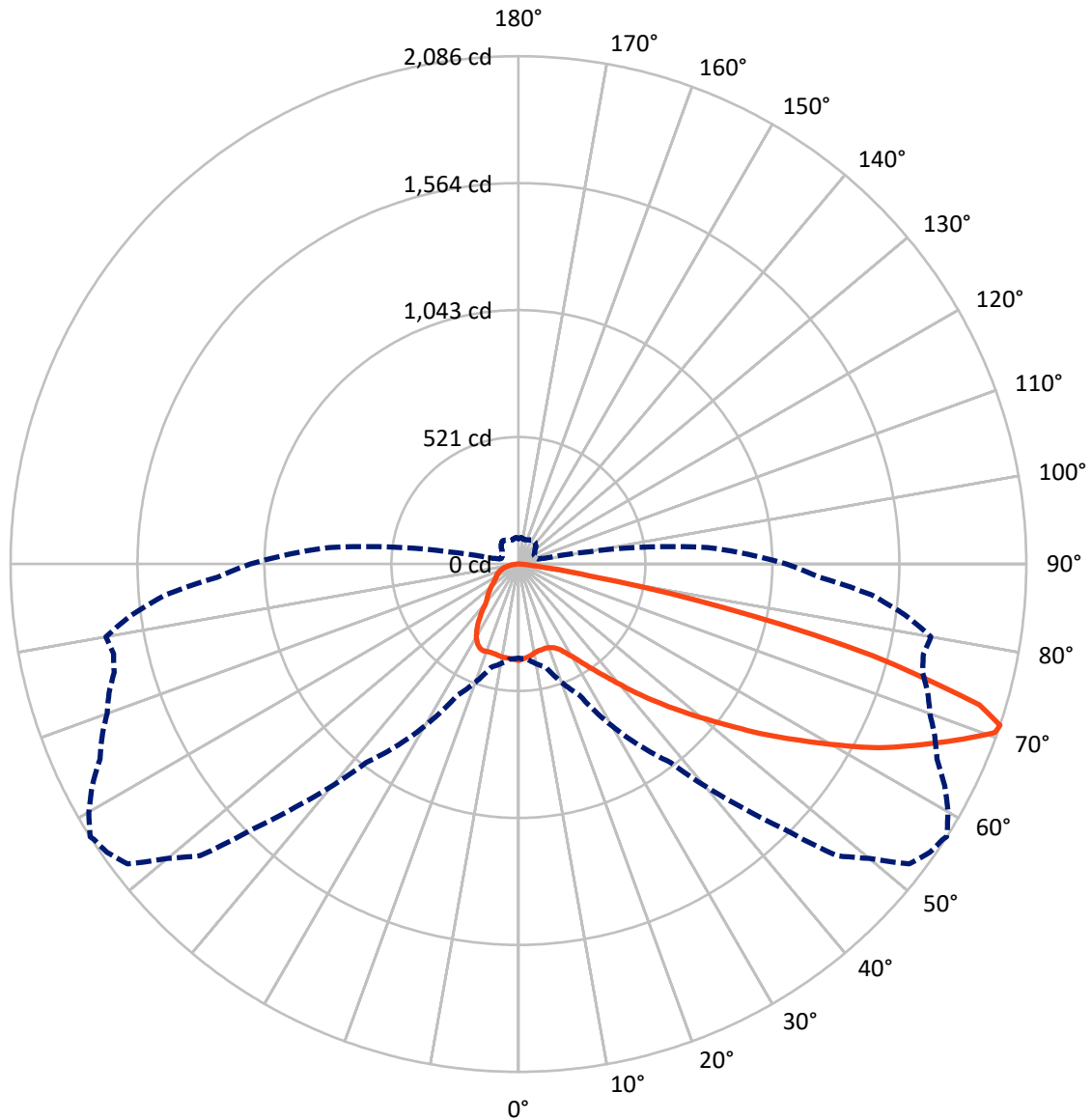
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4 fc  
 Type III - Medium - Semi-Cutoff

REPORT NUMBER: P227785  
CATALOG NUMBER: ISC-AF-450-LED-E1-T3

### Luminous Intensity Polar Plot



— Vertical Plane Through 57.5-Deg Lateral    - - - Horizontal Cone Through 71-Deg Vertical

REPORT NUMBER: P227785

CATALOG NUMBER: ISC-AF-450-LED-E1-T3

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	666.8	0.0	666.8
	% Fixture	21.8	0.0	21.8
<b>Street Side</b>	Lumens	2396.0	0.0	2396.0
	% Fixture	78.2	0.0	78.2
<b>Total</b>	Lumens	3062.7	0.0	3062.7
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.2	1.2
10°-20°	107.3	3.5
20°-30°	178.1	5.8
30°-40°	283.6	9.3
40°-50°	460.7	15.0
50°-60°	690.7	22.6
60°-70°	824.0	26.9
70°-80°	445.0	14.5
80°-90°	36.2	1.2
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°	3062.7	100.0
0°-180°	3062.7	100.0



REPORT NUMBER: P227785

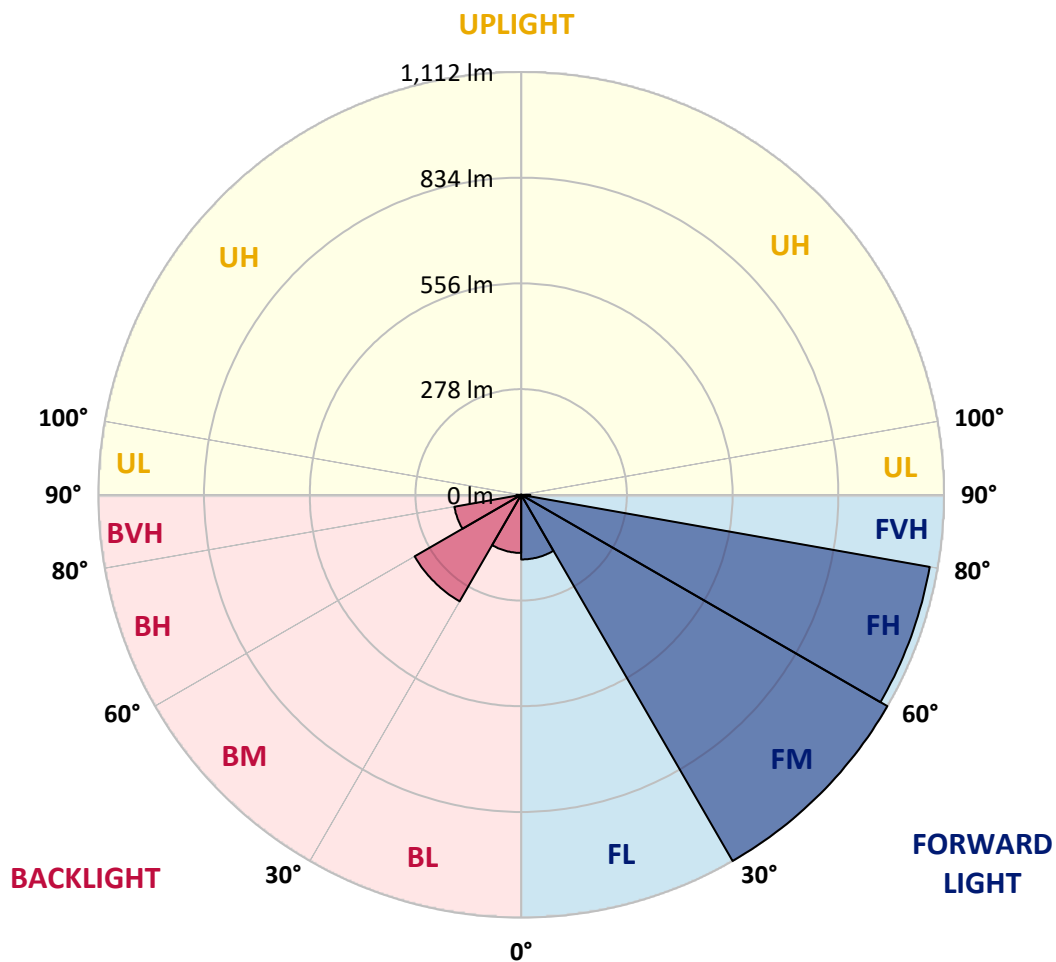
CATALOG NUMBER: ISC-AF-450-LED-E1-T3

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	169.9	5.5			
FM	(30°-60°)	1111.6	36.3			
FH	(60°-80°)	1090.6	35.6			G1/1800
FVH	(80°-90°)	23.9	0.8			G1/100
BL	(0°-30°)	152.7	5.0	B1/500		
BM	(30°-60°)	323.3	10.6	B1/1000		
BH	(60°-80°)	178.4	5.8	B1/500		G1/500
BVH	(80°-90°)	12.4	0.4			G1/100
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: P227785

CATALOG NUMBER: ISC-AF-450-LED-E1-T3

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
0°	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7
2.5°	395.7	394.7	393.6	393.6	393.6	392.6	389.5	390.6	393.6	391.6	394.7
5°	394.7	392.6	391.6	391.6	391.6	388.6	387.6	386.6	392.6	387.6	391.6
7.5°	383.5	383.5	381.5	383.5	385.6	382.5	380.4	381.5	386.6	381.5	386.6
10°	375.4	373.4	372.4	372.4	374.4	370.3	368.4	370.3	376.4	370.3	377.5
12.5°	372.4	373.4	370.3	370.3	369.4	364.3	364.3	364.3	369.4	364.3	370.3
15°	377.5	376.4	373.4	371.3	368.4	364.3	363.2	364.3	368.4	362.2	369.4
17.5°	384.5	384.5	379.5	374.4	371.3	367.3	367.3	365.3	368.4	364.3	369.4
20°	402.7	399.7	392.6	384.5	376.4	374.4	370.3	370.3	372.4	368.4	371.3
22.5°	434.1	431.1	418.9	403.8	390.6	385.6	383.5	382.5	380.4	378.5	378.5
25°	475.6	470.6	456.3	438.1	415.9	411.8	407.7	404.8	397.7	397.7	392.6
27.5°	520.2	515.1	499.9	479.7	452.3	446.2	441.2	437.1	425.0	425.0	415.9
30°	570.7	564.7	546.5	524.2	492.8	490.8	483.7	477.6	461.5	460.4	448.3
32.5°	629.4	621.3	603.1	573.8	540.3	541.3	530.2	526.2	504.9	506.0	489.8
35°	696.2	687.1	668.9	630.4	596.0	599.0	588.9	581.9	555.6	555.6	538.4
37.5°	767.0	767.0	743.8	699.2	657.8	664.8	652.6	645.6	619.3	623.4	596.0
40°	846.0	851.0	825.7	775.1	732.6	735.7	726.5	718.4	687.1	694.2	664.8
42.5°	928.9	938.0	915.7	863.2	815.6	825.7	810.6	802.4	769.1	784.2	749.8
45°	1049.3	1051.4	1009.9	959.3	919.8	928.9	907.7	904.7	863.2	879.3	845.0
47.5°	1125.2	1120.2	1089.9	1059.5	1036.1	1054.5	1035.2	1030.1	982.5	993.7	945.1
50°	1176.8	1179.9	1156.7	1153.6	1157.7	1192.0	1189.0	1178.8	1122.2	1114.1	1053.4
52.5°	1223.3	1210.3	1206.2	1234.5	1278.1	1318.5	1334.7	1321.6	1259.9	1237.6	1178.8
55°	1215.3	1196.0	1217.3	1286.2	1372.2	1434.9	1436.9	1427.8	1372.2	1363.1	1299.2
57.5°	1160.6	1164.7	1208.2	1306.4	1452.1	1516.8	1528.0	1516.8	1471.3	1479.4	1426.8
60°	1084.7	1092.8	1161.7	1288.2	1515.8	1571.5	1576.6	1589.7	1559.4	1580.6	1544.1
62.5°	971.4	982.5	1070.6	1242.6	1471.3	1554.3	1600.8	1631.2	1625.2	1673.6	1654.5
65°	892.5	892.5	978.6	1190.0	1427.8	1537.1	1607.0	1663.6	1671.7	1748.5	1741.5
67.5°	745.7	750.8	824.7	1043.3	1375.2	1498.6	1603.9	1700.0	1748.5	1870.1	1876.1
70°	516.1	520.2	568.7	744.8	1111.0	1216.3	1371.2	1528.0	1673.6	1856.9	1952.0
71°	386.6	391.6	439.2	594.0	941.1	1028.1	1189.0	1351.9	1535.0	1772.9	1880.1
72.5°	189.2	192.2	238.9	381.5	654.7	766.0	859.1	1015.0	1209.2	1481.4	1633.2
75°	88.1	89.1	99.1	137.6	249.9	297.5	339.0	439.2	559.6	798.4	982.5
77.5°	64.8	64.8	70.8	90.0	129.5	131.6	129.5	132.6	159.9	228.7	344.0
80°	47.6	47.6	51.6	60.8	86.0	86.0	83.0	84.0	80.9	84.0	95.1
82.5°	31.4	31.4	33.3	36.4	52.6	52.6	50.6	50.6	48.6	47.6	51.6
85°	18.2	19.2	20.3	17.2	22.3	21.3	19.2	21.3	20.3	18.2	22.3
87.5°	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
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: P227785

CATALOG NUMBER: ISC-AF-450-LED-E1-T3

**CANDELA DISTRIBUTION (continued):**

	52.5°	55°	57°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7
2.5°	390.6	393.6	393.6	389.5	392.6	389.5	391.6	388.6	391.6	386.6	392.6
5°	387.6	390.6	390.6	384.5	390.6	384.5	389.5	382.5	389.5	381.5	389.5
7.5°	379.5	386.6	386.6	378.5	385.6	379.5	385.6	378.5	384.5	375.4	385.6
10°	370.3	377.5	378.5	370.3	378.5	371.3	380.4	371.3	380.4	370.3	381.5
12.5°	364.3	372.4	374.4	365.3	375.4	366.3	377.5	367.3	377.5	366.3	379.5
15°	363.2	370.3	372.4	364.3	373.4	363.2	376.4	364.3	377.5	365.3	380.4
17.5°	364.3	370.3	372.4	363.2	372.4	364.3	375.4	365.3	377.5	366.3	380.4
20°	367.3	371.3	371.3	366.3	373.4	366.3	375.4	365.3	378.5	368.4	381.5
22.5°	376.4	377.5	377.5	373.4	377.5	372.4	379.5	372.4	381.5	373.4	385.6
25°	391.6	390.6	388.6	387.6	388.6	385.6	389.5	384.5	393.6	386.6	398.6
27.5°	417.9	413.9	411.8	411.8	410.8	411.8	411.8	409.8	413.9	411.8	419.9
30°	450.3	443.2	440.2	443.2	439.2	443.2	442.2	441.2	445.3	443.2	450.3
32.5°	492.8	480.7	478.6	484.7	476.6	483.7	477.6	480.7	483.7	485.7	489.8
35°	542.4	528.3	526.2	532.2	523.1	533.3	526.2	530.2	532.2	537.4	540.3
37.5°	601.1	583.9	580.8	588.9	576.7	587.9	577.8	589.9	586.9	594.0	597.0
40°	671.9	651.6	644.6	655.7	641.6	650.7	640.6	653.7	650.7	664.8	667.9
42.5°	758.9	729.6	722.5	733.7	712.4	715.5	707.4	722.5	720.5	739.7	742.8
45°	848.9	813.6	803.4	814.6	790.3	796.4	784.2	800.5	799.4	814.6	826.7
47.5°	949.2	905.6	892.5	904.7	875.3	882.4	870.2	887.4	888.4	905.6	917.8
50°	1053.4	1007.8	990.6	1001.8	974.5	979.6	967.4	988.7	987.7	1010.9	1020.0
52.5°	1166.8	1120.2	1107.0	1112.0	1079.7	1085.8	1075.6	1101.9	1095.9	1110.1	1128.3
55°	1292.2	1238.6	1223.3	1238.6	1200.1	1208.2	1195.1	1219.4	1209.2	1227.4	1232.6
57.5°	1420.7	1368.1	1355.9	1367.1	1330.7	1336.7	1319.5	1339.8	1331.7	1343.9	1351.9
60°	1557.3	1509.8	1497.6	1509.8	1474.4	1475.4	1446.0	1467.2	1455.1	1470.3	1467.2
62.5°	1687.9	1647.4	1644.4	1661.6	1617.1	1612.0	1576.6	1591.7	1574.5	1584.7	1572.5
65°	1799.2	1775.9	1779.9	1794.2	1754.7	1742.5	1702.0	1710.2	1684.8	1684.8	1669.7
67.5°	1944.9	1919.6	1919.6	1931.7	1882.1	1850.8	1795.2	1788.0	1746.6	1738.5	1703.0
70°	2066.4	2073.4	2065.3	2075.5	2016.7	1953.0	1879.2	1843.7	1789.0	1762.7	1721.2
71°	2022.8	2063.3	2077.4	2085.6	2037.0	1973.3	1896.3	1850.8	1798.1	1762.7	1718.3
72.5°	1825.5	1923.7	1979.3	1979.3	1985.3	1944.9	1871.0	1821.5	1761.7	1715.2	1673.6
75°	1279.1	1439.0	1510.8	1502.7	1555.3	1573.5	1579.6	1558.4	1524.9	1458.1	1428.9
77.5°	569.7	750.8	859.1	860.1	916.8	966.4	1005.9	1047.3	1032.2	999.7	997.8
80°	129.5	234.8	300.5	303.6	355.2	400.7	428.0	469.5	474.5	428.0	401.7
82.5°	55.6	65.8	74.9	73.9	91.0	109.3	129.5	140.7	135.6	112.3	106.3
85°	23.3	30.4	32.4	30.4	37.4	41.5	48.6	49.6	57.7	51.6	54.6
87.5°	0.0	1.0	1.0	0.0	2.0	0.0	2.0	1.0	5.0	2.0	6.0
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: P227785

CATALOG NUMBER: ISC-AF-450-LED-E1-T3

**CANDELA DISTRIBUTION (continued):**

	77.5°	80°	82.5°	85°	87.5°	90°	95°	100°	102.5°	105°	107.5°
0°	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7
2.5°	388.6	393.6	388.6	393.6	390.6	393.6	392.6	393.6	388.6	393.6	387.6
5°	381.5	389.5	382.5	388.6	382.5	389.5	389.5	389.5	382.5	390.6	383.5
7.5°	375.4	384.5	375.4	384.5	378.5	385.6	385.6	388.6	380.4	389.5	379.5
10°	369.4	380.4	369.4	382.5	372.4	383.5	384.5	386.6	375.4	387.6	377.5
12.5°	366.3	380.4	367.3	380.4	368.4	383.5	384.5	386.6	374.4	389.5	376.4
15°	366.3	381.5	367.3	381.5	368.4	383.5	385.6	387.6	374.4	390.6	376.4
17.5°	366.3	381.5	369.4	382.5	370.3	384.5	386.6	388.6	376.4	390.6	378.5
20°	369.4	383.5	371.3	385.6	373.4	387.6	388.6	391.6	378.5	391.6	380.4
22.5°	376.4	388.6	378.5	391.6	382.5	393.6	394.7	397.7	387.6	398.6	389.5
25°	388.6	401.7	393.6	403.8	398.6	407.7	409.8	409.8	405.8	412.9	409.8
27.5°	413.9	424.0	417.9	427.0	424.0	431.1	431.1	432.1	435.2	437.1	440.2
30°	446.2	453.4	451.3	456.3	457.4	461.5	461.5	467.5	479.7	467.5	466.5
32.5°	489.8	493.8	494.8	496.8	500.9	503.9	508.0	515.1	525.2	496.8	487.7
35°	543.4	544.4	547.5	550.4	557.6	559.6	572.8	567.6	567.6	523.1	503.9
37.5°	602.1	602.1	610.2	610.2	627.4	628.4	641.6	615.2	600.1	542.4	514.0
40°	676.0	674.9	684.0	686.1	709.3	710.3	708.3	650.7	618.3	547.5	509.0
42.5°	753.9	756.9	769.1	773.1	790.3	796.4	771.1	674.9	626.4	544.4	491.8
45°	838.9	845.0	860.1	871.2	889.5	882.4	821.6	686.1	617.2	526.2	458.4
47.5°	932.0	938.0	950.2	971.4	979.6	971.4	863.2	690.1	603.1	497.9	409.8
50°	1026.1	1036.1	1053.4	1083.7	1087.8	1067.6	913.8	705.3	592.0	468.5	354.1
52.5°	1132.3	1142.4	1162.7	1213.3	1203.2	1161.7	973.4	733.7	595.1	450.3	306.6
55°	1244.6	1258.8	1298.3	1347.8	1325.6	1260.9	1039.2	775.1	607.1	431.1	254.0
57.5°	1363.1	1378.2	1429.8	1488.5	1445.0	1358.0	1106.0	807.5	613.3	391.6	196.3
60°	1480.4	1501.7	1568.5	1617.1	1549.3	1440.9	1165.8	828.8	597.0	316.7	151.8
62.5°	1587.7	1622.1	1697.0	1723.3	1615.0	1493.6	1198.1	813.6	531.2	218.6	122.4
65°	1663.6	1708.1	1756.7	1753.6	1602.9	1476.4	1173.8	743.8	395.7	144.7	104.2
67.5°	1696.0	1737.5	1748.5	1697.0	1515.8	1400.5	1086.8	599.0	227.7	108.2	91.0
70°	1708.1	1743.5	1680.8	1556.3	1345.8	1214.2	888.4	381.5	124.5	88.1	79.0
71°	1703.0	1720.3	1600.8	1455.1	1237.6	1100.0	779.2	290.4	106.3	81.9	74.9
72.5°	1634.3	1609.9	1425.8	1263.9	1049.3	909.7	606.1	183.1	87.1	73.9	69.9
75°	1335.8	1226.4	1049.3	896.5	714.4	571.7	328.9	94.1	69.9	63.7	60.8
77.5°	873.3	778.2	632.5	514.0	390.6	296.5	134.6	64.8	55.6	53.6	52.6
80°	311.7	249.9	189.2	165.9	125.5	103.2	65.8	49.6	43.5	44.5	43.5
82.5°	88.1	80.9	69.9	64.8	56.7	55.6	42.5	37.4	34.4	36.4	35.4
85°	43.5	37.4	27.3	26.3	20.3	23.3	21.3	25.3	22.3	23.3	21.3
87.5°	3.1	4.1	1.0	3.1	0.0	3.1	4.1	5.0	1.0	4.1	3.1
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: P227785

CATALOG NUMBER: ISC-AF-450-LED-E1-T3

**CANDELA DISTRIBUTION (continued):**

	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°
0°	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7	395.7
2.5°	394.7	390.6	395.7	390.6	395.7	392.6	395.7	392.6	395.7	397.7	397.7
5°	392.6	385.6	394.7	389.5	395.7	390.6	394.7	391.6	396.7	398.6	400.7
7.5°	391.6	384.5	393.6	386.6	395.7	388.6	394.7	390.6	396.7	398.6	402.7
10°	390.6	381.5	393.6	383.5	394.7	387.6	394.7	388.6	395.7	397.7	398.6
12.5°	390.6	380.4	393.6	382.5	394.7	384.5	393.6	384.5	394.7	393.6	390.6
15°	391.6	378.5	393.6	380.4	393.6	381.5	392.6	380.4	390.6	387.6	385.6
17.5°	391.6	378.5	392.6	379.5	391.6	380.4	389.5	378.5	387.6	386.6	383.5
20°	393.6	380.4	392.6	383.5	392.6	381.5	388.6	378.5	385.6	379.5	367.3
22.5°	399.7	390.6	399.7	390.6	394.7	384.5	387.6	375.4	374.4	364.3	345.0
25°	413.9	409.8	407.7	396.7	393.6	380.4	376.4	362.2	357.2	342.1	315.7
27.5°	432.1	423.0	410.8	397.7	384.5	368.4	357.2	346.1	334.9	315.7	282.3
30°	444.3	431.1	405.8	387.6	363.2	350.2	330.9	318.8	302.6	278.2	245.9
32.5°	452.3	432.1	393.6	372.4	340.0	322.8	297.5	284.4	261.1	237.8	214.5
35°	454.4	428.0	377.5	354.1	311.7	292.5	259.0	244.9	222.6	206.4	197.3
37.5°	446.2	413.9	352.1	321.8	275.3	253.0	221.6	211.4	198.4	192.2	188.2
40°	430.0	386.6	312.7	277.2	229.7	212.5	196.3	196.3	189.2	186.2	179.1
42.5°	400.7	346.1	262.1	227.7	195.3	192.2	183.1	187.2	182.2	180.1	170.0
45°	355.2	288.4	211.4	191.3	176.0	178.1	172.1	176.0	173.1	172.1	159.9
47.5°	296.5	229.7	178.1	171.0	160.9	164.0	158.9	164.0	160.9	161.9	152.8
50°	236.8	186.2	157.8	153.9	146.7	148.7	145.7	150.8	149.8	153.9	148.7
52.5°	189.2	158.9	140.7	137.6	133.6	134.6	133.6	138.6	139.6	147.7	147.7
55°	156.8	136.6	126.5	125.5	121.4	122.4	123.5	128.5	132.6	142.7	147.7
57.5°	134.6	122.4	115.4	114.4	112.3	113.3	115.4	121.4	125.5	138.6	149.8
60°	118.4	111.3	106.3	106.3	104.2	106.3	108.2	114.4	119.4	134.6	145.7
62.5°	106.3	101.2	98.2	99.1	98.2	100.1	102.2	108.2	114.4	128.5	139.6
65°	95.1	92.1	90.0	91.0	91.0	94.1	96.2	102.2	107.3	120.4	134.6
67.5°	86.0	84.0	83.0	84.0	85.0	88.1	91.0	95.1	99.1	111.3	127.5
70°	79.0	76.9	76.9	76.9	77.9	80.9	85.0	87.1	91.0	104.2	119.4
71°	74.9	73.9	73.9	73.9	74.9	77.9	81.9	84.0	88.1	101.2	115.4
72.5°	69.9	69.9	70.8	69.9	71.8	72.8	76.9	79.0	84.0	97.2	110.3
75°	61.7	61.7	62.7	62.7	64.8	64.8	67.8	69.9	75.9	87.1	99.1
77.5°	54.6	54.6	56.7	55.6	55.6	53.6	57.7	59.7	64.8	75.9	88.1
80°	46.5	45.5	47.6	44.5	43.5	41.5	44.5	47.6	55.6	62.7	64.8
82.5°	36.4	33.3	34.4	31.4	31.4	29.4	32.4	33.3	38.5	45.5	49.6
85°	22.3	18.2	20.3	17.2	19.2	17.2	18.2	19.2	23.3	28.3	27.3
87.5°	5.0	3.1	4.1	1.0	3.1	0.0	3.1	1.0	3.1	1.0	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: P227785

CATALOG NUMBER: ISC-AF-450-LED-E1-T3

**CANDELA DISTRIBUTION (continued):**

	155°	165°	175°	180°
0°	395.7	395.7	395.7	395.7
2.5°	399.7	398.6	399.7	398.6
5°	404.8	404.8	405.8	406.8
7.5°	405.8	407.7	409.8	408.8
10°	398.6	396.7	398.6	396.7
12.5°	387.6	385.6	387.6	387.6
15°	386.6	385.6	386.6	386.6
17.5°	379.5	374.4	372.4	371.3
20°	359.3	350.2	348.1	345.0
22.5°	330.9	317.7	313.7	310.7
25°	296.5	278.2	271.2	267.2
27.5°	259.0	240.8	233.7	233.7
30°	229.7	215.5	208.5	208.5
32.5°	208.5	200.4	195.3	196.3
35°	191.3	186.2	183.1	184.1
37.5°	180.1	172.1	164.9	164.9
40°	169.0	158.9	149.8	149.8
42.5°	158.9	148.7	142.7	141.7
45°	148.7	141.7	136.6	135.6
47.5°	143.7	137.6	132.6	131.6
50°	141.7	135.6	128.5	128.5
52.5°	143.7	138.6	125.5	125.5
55°	147.7	144.7	125.5	123.5
57.5°	143.7	138.6	126.5	123.5
60°	134.6	126.5	124.5	122.4
62.5°	128.5	120.4	124.5	123.5
65°	123.5	117.3	126.5	124.5
67.5°	118.4	112.3	126.5	122.4
70°	112.3	106.3	115.4	108.2
71°	109.3	102.2	109.3	103.2
72.5°	104.2	96.2	98.2	94.1
75°	94.1	86.0	84.0	83.0
77.5°	77.9	68.8	65.8	64.8
80°	59.7	53.6	53.6	50.6
82.5°	44.5	39.5	38.5	33.3
85°	23.3	18.2	15.1	15.1
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)