

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: P228435

Luminaire Tested: **ISC-AF-450-LED-E1-SL4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P228435
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: ISC-AF-450-LED-E1-SL4
Description: IMPACT ELITE LED CYLINDER LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV W/SPILL CONTROL
Light Source: (16) 4000K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2709.8 lumens
Efficiency: N/A
Efficacy: 107.1 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

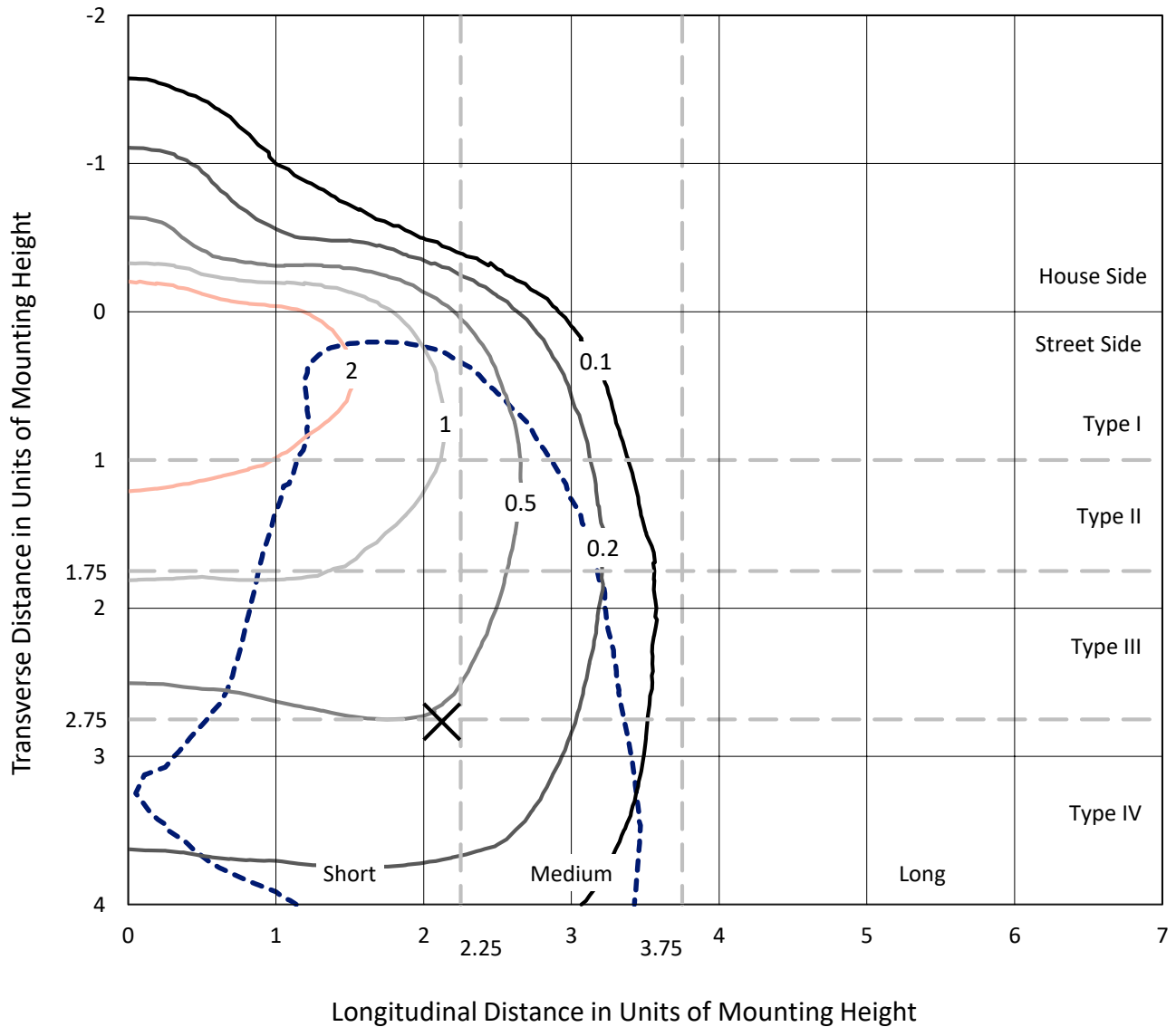
Input Watts (W): 25.31
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

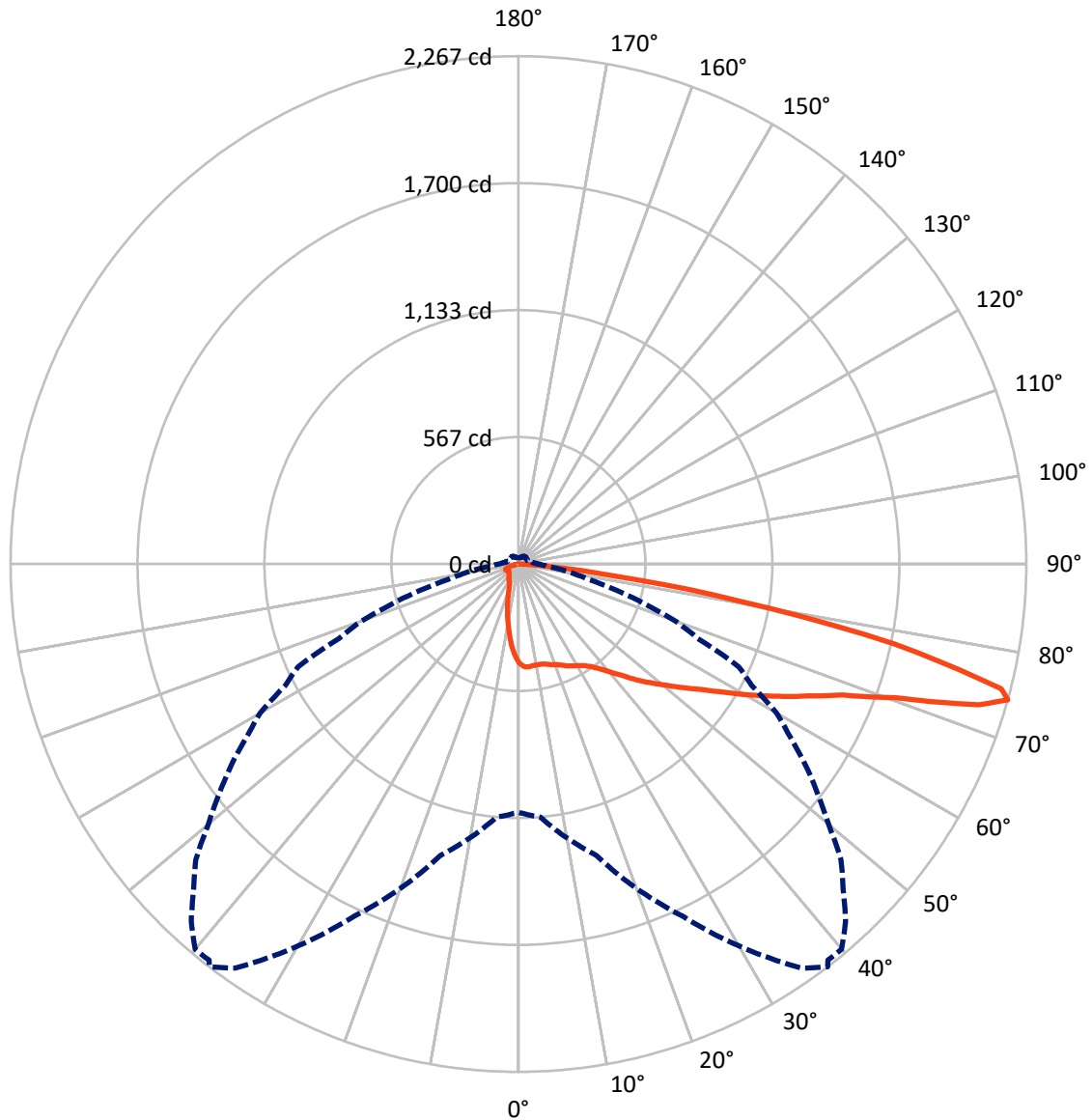
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.7 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	321.3	0.0	321.3
	% Fixture	11.9	0.0	11.9
Street Side	Lumens	2388.5	0.0	2388.5
	% Fixture	88.1	0.0	88.1
Total	Lumens	2709.8	0.0	2709.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.5	1.4
10°-20°	98.1	3.6
20°-30°	152.0	5.6
30°-40°	225.4	8.3
40°-50°	346.8	12.8
50°-60°	512.6	18.9
60°-70°	683.3	25.2
70°-80°	589.8	21.8
80°-90°	63.4	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°	2709.8	100.0
0°-180°	2709.8	100.0

Coefficient of Utilization



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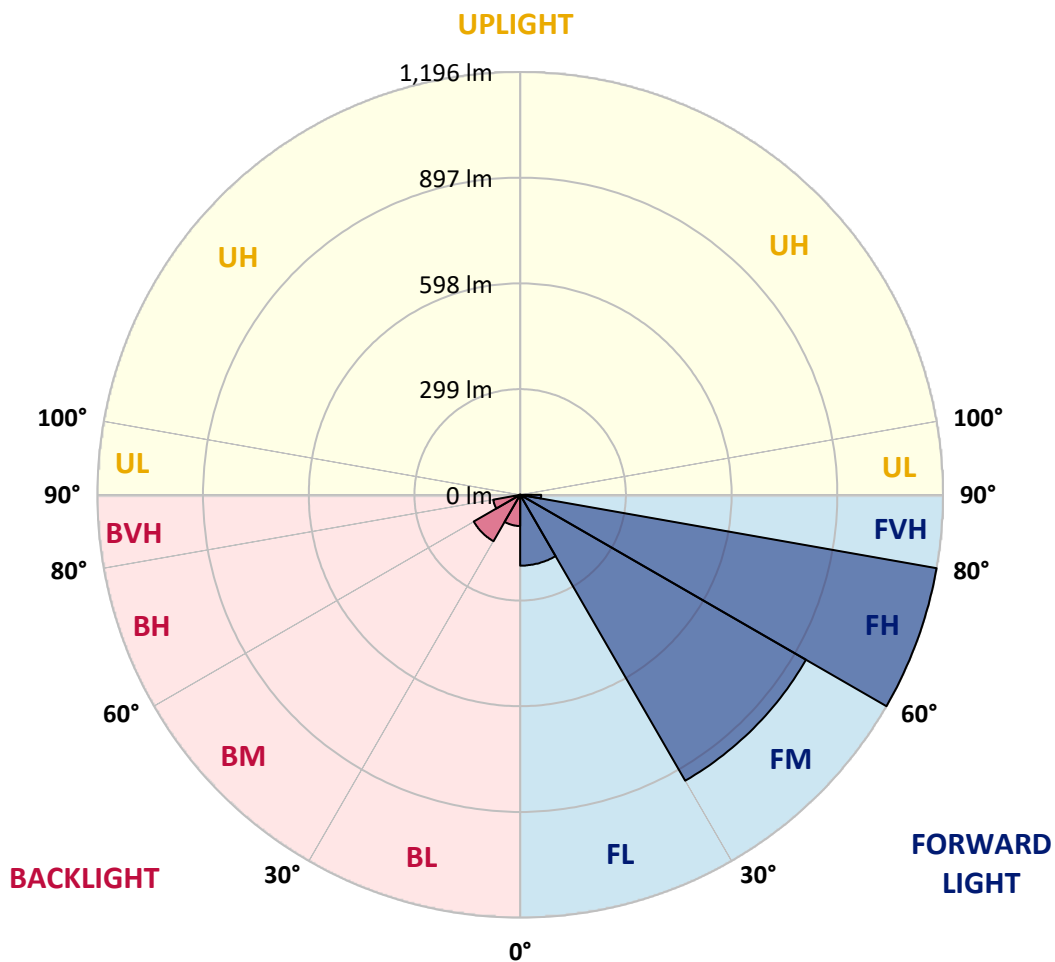
CATALOG NUMBER: ISC-AF-450-LED-E1-SL4

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	200.3	7.4			
FM	(30°-60°)	933.3	34.4			
FH	(60°-80°)	1195.6	44.1			G1/1800
FVH	(80°-90°)	59.3	2.2			G1/100
BL	(0°-30°)	88.2	3.3	B0/110		
BM	(30°-60°)	151.5	5.6	B0/220		
BH	(60°-80°)	77.5	2.9	B0/110		G0/110
BVH	(80°-90°)	4.2	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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	38°	40°	42.5°	45°	47.5°
0°	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2
2.5°	467.5	466.5	464.4	463.4	461.5	458.4	461.5	457.4	455.3	457.4	453.4
5°	475.6	474.5	472.6	468.5	466.5	461.5	464.4	459.4	458.4	460.4	455.3
7.5°	476.6	474.5	471.6	466.5	464.4	458.4	460.4	454.3	452.3	454.3	451.3
10°	473.5	472.6	469.5	461.5	459.4	457.4	456.3	452.3	451.3	450.3	449.3
12.5°	468.5	468.5	466.5	463.4	462.5	458.4	459.4	455.3	456.3	454.3	452.3
15°	466.5	465.4	467.5	469.5	469.5	463.4	467.5	464.4	462.5	463.4	460.4
17.5°	464.4	465.4	472.6	476.6	478.6	472.6	478.6	472.6	468.5	473.5	468.5
20°	463.4	466.5	478.6	487.7	488.8	478.6	488.8	478.6	478.6	484.7	475.6
22.5°	468.5	473.5	490.8	500.8	502.9	489.8	501.9	488.8	488.8	493.8	484.7
25°	484.7	489.8	509.0	520.1	518.1	503.9	515.1	501.9	500.8	507.0	494.8
27.5°	506.0	513.0	531.2	541.3	534.3	515.1	531.2	512.0	512.0	521.1	504.9
30°	536.3	541.3	557.5	558.5	549.4	526.2	544.4	523.1	520.1	536.3	516.1
32.5°	569.7	573.8	585.8	578.8	565.7	541.3	562.6	537.4	536.3	553.5	530.2
35°	605.1	609.2	613.2	601.1	588.9	562.6	585.8	560.6	559.6	578.8	556.6
37.5°	641.5	641.5	641.5	627.4	619.3	594.0	615.2	594.9	593.0	613.2	592.0
40°	670.9	672.9	669.8	656.7	652.6	634.4	652.6	634.4	637.5	655.7	638.5
42.5°	695.2	697.2	698.2	687.1	691.1	681.0	695.2	682.0	683.0	703.3	693.2
45°	719.4	718.4	726.5	723.5	735.6	736.6	744.7	739.7	741.7	756.9	753.8
47.5°	744.7	739.7	748.8	762.0	784.2	791.3	796.4	798.4	806.5	813.6	820.6
50°	769.1	763.9	770.1	799.4	834.8	850.0	851.0	861.1	870.2	880.4	894.5
52.5°	794.3	790.3	796.4	837.8	894.5	915.7	912.7	930.0	943.1	954.2	977.5
55°	820.6	816.6	822.7	884.3	958.3	987.6	984.6	1008.8	1034.1	1038.2	1064.5
57.5°	846.0	840.9	858.1	939.1	1034.1	1078.7	1064.5	1101.9	1126.3	1124.2	1160.6
60°	873.3	869.2	896.5	1005.9	1129.2	1186.9	1165.7	1215.3	1232.5	1225.4	1259.8
62.5°	899.6	898.6	944.1	1083.7	1244.6	1300.3	1281.0	1324.5	1336.7	1327.6	1344.8
65°	923.8	930.0	995.7	1161.7	1355.9	1419.7	1393.4	1436.8	1451.1	1444.0	1473.4
67.5°	964.3	971.4	1059.5	1260.8	1493.5	1559.3	1537.1	1582.6	1603.9	1601.8	1634.2
70°	1024.1	1037.2	1153.6	1401.4	1703.0	1787.0	1774.8	1830.5	1882.1	1878.0	1910.5
72.5°	1128.2	1149.5	1308.4	1620.0	2047.0	2149.2	2135.1	2166.5	2157.3	2083.4	2023.8
74°	1108.1	1134.4	1346.8	1734.4	2201.9	2266.7	2243.3	2244.4	2161.4	2049.1	1952.9
75°	1034.1	1061.5	1291.2	1720.2	2190.8	2226.1	2192.8	2151.3	2051.1	1936.8	1818.4
77.5°	709.3	744.7	949.2	1389.4	1763.8	1715.2	1707.1	1628.1	1495.6	1367.1	1215.3
80°	363.2	388.5	490.8	726.5	1046.3	997.7	1013.9	950.1	839.8	746.8	592.0
82.5°	87.1	93.1	144.7	281.3	453.4	414.9	420.9	372.4	308.6	252.0	195.3
85°	45.5	51.6	70.8	77.9	119.4	123.5	120.4	116.4	95.1	79.9	69.9
87.5°	0.0	0.0	0.0	2.0	1.0	0.0	1.0	0.0	0.0	1.0	2.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2
2.5°	456.3	454.3	456.3	450.3	453.4	448.3	450.3	445.2	447.2	443.2	444.3
5°	458.4	453.4	456.3	451.3	452.3	448.3	447.2	445.2	444.3	441.2	439.2
7.5°	453.4	449.3	448.3	446.2	443.2	444.3	440.2	439.2	436.1	436.1	430.0
10°	448.3	449.3	443.2	445.2	440.2	441.2	434.1	436.1	431.1	435.2	426.0
12.5°	452.3	453.4	448.3	451.3	442.2	444.3	438.1	441.2	434.1	439.2	428.0
15°	461.5	460.4	458.4	458.4	449.3	453.4	446.2	448.3	441.2	447.2	435.2
17.5°	469.5	468.5	465.4	464.4	458.4	459.4	452.3	456.3	448.3	453.4	441.2
20°	478.6	473.5	472.6	471.6	464.4	464.4	459.4	461.5	453.4	459.4	445.2
22.5°	485.7	481.7	480.7	476.6	471.6	473.5	466.5	467.5	459.4	465.4	453.4
25°	496.8	491.7	491.7	485.7	482.6	481.7	477.6	480.7	472.6	476.6	465.4
27.5°	512.0	500.8	504.9	498.9	496.8	495.8	493.8	495.8	489.8	492.8	481.7
30°	526.2	512.0	518.1	510.0	514.0	510.0	513.0	510.0	510.0	510.0	504.9
32.5°	545.4	528.3	540.3	528.3	536.3	530.2	540.3	534.3	538.3	537.4	535.3
35°	572.8	552.5	569.7	553.5	567.6	559.6	573.8	570.7	578.8	574.8	578.8
37.5°	609.2	587.9	608.1	593.0	610.2	598.0	618.3	616.2	633.4	627.4	633.4
40°	654.7	639.5	654.7	643.5	661.7	656.7	678.0	678.9	698.2	695.2	702.3
42.5°	705.3	694.2	709.3	703.3	721.5	725.5	749.8	755.9	774.1	779.2	780.2
45°	760.0	757.9	770.1	776.1	794.3	806.5	827.8	842.9	863.2	874.3	872.3
47.5°	823.7	831.8	839.8	855.1	871.2	896.5	917.8	937.0	960.2	967.4	970.4
50°	895.5	909.7	916.8	938.0	954.2	985.6	1015.0	1039.2	1064.5	1061.5	1063.5
52.5°	971.4	989.6	999.7	1025.0	1046.3	1082.7	1108.1	1131.3	1162.7	1154.6	1151.5
55°	1055.4	1082.7	1090.8	1119.1	1137.3	1174.8	1197.1	1237.6	1250.7	1242.6	1225.4
57.5°	1144.5	1176.8	1185.9	1224.4	1233.5	1274.0	1293.2	1320.5	1331.7	1318.5	1296.2
60°	1245.6	1275.0	1282.1	1316.4	1328.6	1366.0	1380.3	1404.5	1412.6	1380.3	1348.9
62.5°	1346.8	1377.2	1381.2	1411.6	1423.7	1456.1	1472.3	1486.4	1482.5	1434.9	1395.4
65°	1462.2	1491.6	1501.7	1532.0	1539.1	1563.4	1576.6	1560.3	1551.2	1479.4	1434.9
67.5°	1645.3	1676.7	1680.7	1687.9	1686.8	1674.7	1668.6	1613.0	1572.5	1439.9	1376.2
70°	1886.1	1862.9	1817.4	1764.7	1726.3	1657.5	1617.0	1502.6	1417.7	1268.9	1161.7
72.5°	1929.7	1853.8	1741.5	1651.5	1558.3	1450.0	1363.0	1190.0	1070.6	914.7	801.4
74°	1806.2	1682.8	1564.4	1437.9	1330.7	1172.8	1084.7	866.1	747.8	589.9	452.3
75°	1657.5	1512.7	1379.2	1218.3	1118.2	928.9	846.0	610.2	491.7	350.2	235.8
77.5°	1057.4	884.3	756.9	570.7	492.8	340.0	248.9	154.8	114.4	100.1	87.1
80°	474.5	338.0	268.1	185.2	154.8	118.4	100.1	80.9	73.9	64.8	61.7
82.5°	151.8	121.4	115.4	103.2	103.2	83.0	70.8	55.6	50.6	43.5	39.5
85°	65.8	61.7	63.7	58.7	59.7	45.5	36.4	27.3	27.3	19.2	17.2
87.5°	2.0	0.0	1.0	0.0	2.0	0.0	1.0	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



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CANDELA DISTRIBUTION (continued):

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2
2.5°	440.2	442.2	441.2	437.1	436.1	433.1	426.0	427.0	423.0	426.0	420.9
5°	436.1	435.2	431.1	426.0	420.9	414.9	409.8	407.7	403.8	401.7	398.6
7.5°	430.0	426.0	418.9	410.8	403.8	395.7	391.6	384.5	382.5	375.4	374.4
10°	428.0	420.9	412.9	402.7	390.6	378.5	377.5	365.3	364.3	353.1	350.2
12.5°	432.1	423.0	412.9	400.7	386.6	369.4	369.4	351.1	350.2	334.9	329.9
15°	440.2	429.0	415.9	401.7	383.5	362.2	361.2	340.0	338.0	319.8	313.6
17.5°	447.2	432.1	419.9	400.7	379.4	355.2	350.2	328.9	324.8	303.6	295.4
20°	452.3	435.2	420.9	398.6	372.4	344.0	337.0	314.7	305.6	284.4	273.2
22.5°	458.4	442.2	423.0	397.7	368.4	334.9	319.8	299.5	286.3	264.1	248.9
25°	467.5	453.4	430.0	400.7	365.3	325.8	305.6	284.4	266.2	243.9	221.6
27.5°	481.7	467.5	440.2	404.8	364.3	316.7	294.5	268.1	245.9	221.6	196.3
30°	501.9	486.7	457.4	415.9	365.3	309.6	282.3	254.0	227.7	199.4	173.1
32.5°	528.3	516.1	479.7	428.0	369.4	303.6	271.2	238.8	206.4	179.1	155.8
35°	564.7	556.6	511.0	451.3	379.4	300.5	260.0	224.6	188.2	160.9	135.6
37.5°	618.3	607.1	556.6	484.7	395.7	298.5	252.0	207.5	173.1	143.7	122.4
40°	686.1	670.9	610.2	525.2	420.9	299.5	244.9	194.3	159.9	128.5	111.3
42.5°	767.0	744.7	676.0	574.8	446.2	301.6	240.8	182.2	149.8	116.4	103.2
45°	858.1	832.8	753.8	636.5	482.6	306.6	237.8	172.1	140.7	107.3	98.2
47.5°	947.2	921.8	833.8	698.2	520.1	315.7	239.8	165.9	134.6	102.2	92.1
50°	1034.1	1007.8	904.6	753.8	552.5	327.9	248.0	166.9	133.6	100.1	89.0
52.5°	1111.0	1078.7	965.4	797.4	575.7	335.9	255.0	170.0	134.6	99.1	88.1
55°	1188.0	1146.4	1013.9	831.8	589.9	337.0	255.0	171.0	135.6	99.1	87.1
57.5°	1245.6	1198.1	1051.4	852.0	594.9	331.9	248.9	165.9	129.5	98.2	85.0
60°	1282.1	1231.4	1077.7	865.2	587.9	310.7	216.6	146.7	114.4	91.0	79.0
62.5°	1312.4	1260.8	1085.8	842.9	528.3	246.9	169.0	119.4	95.1	80.9	72.8
65°	1319.5	1257.8	1029.1	744.7	412.9	171.0	122.4	94.1	77.9	71.8	65.8
67.5°	1212.2	1138.3	865.2	582.9	281.3	117.3	91.0	76.9	66.8	63.7	61.7
70°	985.6	904.6	633.4	381.5	156.8	81.9	69.9	63.7	57.7	57.7	54.6
72.5°	635.5	551.5	324.8	163.0	79.9	62.7	56.7	54.6	49.6	50.6	47.6
74°	324.8	253.0	132.6	86.0	65.8	55.6	50.6	49.6	44.5	45.5	42.5
75°	164.9	130.5	93.1	71.8	60.8	52.6	46.5	46.5	40.5	41.5	38.5
77.5°	76.9	73.9	63.7	56.7	51.6	44.5	38.5	37.4	31.4	33.3	29.4
80°	53.6	53.6	49.6	47.6	42.5	36.4	29.4	29.4	23.3	24.2	21.3
82.5°	30.4	28.3	28.3	32.4	33.3	27.3	21.3	20.3	17.2	17.2	14.1
85°	13.2	15.1	18.2	22.3	24.2	21.3	15.1	14.1	9.1	9.1	5.0
87.5°	0.0	1.0	1.0	2.0	4.1	4.1	0.0	2.0	0.0	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



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CATALOG NUMBER: ISC-AF-450-LED-E1-SL4

CANDELA DISTRIBUTION (continued):

	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°
0°	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2	442.2
2.5°	423.0	417.9	420.9	415.9	417.9	412.9	414.9	411.8	408.8	404.8	403.8
5°	395.7	391.6	390.6	385.6	386.6	382.5	378.5	373.4	367.3	359.3	356.2
7.5°	365.3	364.3	357.2	354.1	350.2	346.1	339.0	330.9	318.8	307.6	300.5
10°	339.0	335.9	325.8	320.8	314.7	309.6	299.5	288.4	271.2	254.0	244.9
12.5°	316.7	312.7	299.5	293.5	284.4	278.2	266.2	252.0	227.7	203.4	192.2
15°	298.5	292.5	277.2	268.1	256.0	249.9	236.8	216.6	187.2	161.9	146.7
17.5°	277.2	269.1	253.0	241.8	229.7	218.6	205.4	184.1	150.8	127.5	112.3
20°	254.0	243.9	226.7	211.4	198.4	188.2	175.0	153.9	120.4	102.2	94.1
22.5°	229.7	213.5	198.4	185.2	170.0	159.9	146.7	127.5	102.2	92.1	89.0
25°	204.4	186.2	171.0	157.8	143.7	134.6	123.5	108.2	93.1	90.0	90.0
27.5°	179.1	160.9	146.7	133.6	121.4	115.4	105.3	95.1	88.1	89.0	90.0
30°	155.8	137.6	124.5	114.4	103.2	99.1	91.0	85.0	84.0	87.1	88.1
32.5°	135.6	119.4	107.3	99.1	90.0	88.1	80.9	77.9	80.9	85.0	84.0
35°	118.4	105.3	93.1	88.1	79.9	79.0	73.9	71.8	75.9	80.9	80.9
37.5°	105.3	93.1	84.0	79.9	73.9	72.8	68.8	66.8	69.9	76.9	79.0
40°	94.1	87.1	77.9	73.9	69.9	67.8	65.8	63.7	64.8	73.9	74.9
42.5°	87.1	81.9	73.9	71.8	66.8	65.8	62.7	60.8	61.7	68.8	71.8
45°	81.9	77.9	70.8	69.9	64.8	63.7	60.8	58.7	59.7	65.8	68.8
47.5°	77.9	73.9	67.8	65.8	62.7	61.7	59.7	57.7	57.7	63.7	66.8
50°	75.9	71.8	65.8	63.7	60.8	59.7	57.7	55.6	56.7	61.7	63.7
52.5°	74.9	69.9	64.8	61.7	59.7	57.7	55.6	53.6	54.6	59.7	61.7
55°	74.9	68.8	64.8	61.7	58.7	55.6	54.6	51.6	53.6	57.7	60.8
57.5°	74.9	68.8	64.8	61.7	59.7	56.7	54.6	52.6	53.6	57.7	60.8
60°	72.8	67.8	65.8	62.7	61.7	58.7	57.7	55.6	55.6	60.8	65.8
62.5°	69.9	66.8	65.8	63.7	63.7	61.7	61.7	59.7	59.7	65.8	70.8
65°	65.8	63.7	64.8	63.7	63.7	63.7	62.7	62.7	62.7	67.8	73.9
67.5°	61.7	60.8	61.7	61.7	62.7	61.7	62.7	61.7	61.7	66.8	72.8
70°	55.6	55.6	56.7	55.6	56.7	56.7	57.7	57.7	57.7	60.8	66.8
72.5°	48.6	47.6	48.6	47.6	49.6	47.6	49.6	50.6	49.6	50.6	53.6
74°	43.5	42.5	43.5	42.5	44.5	42.5	43.5	43.5	42.5	34.4	29.4
75°	39.5	38.5	39.5	38.5	40.5	38.5	40.5	39.5	37.4	25.3	24.2
77.5°	31.4	28.3	31.4	28.3	30.4	27.3	29.4	25.3	19.2	18.2	18.2
80°	23.3	20.3	22.3	19.2	18.2	14.1	15.1	14.1	13.2	14.1	14.1
82.5°	14.1	10.1	12.2	9.1	11.2	8.1	10.1	9.1	8.1	8.1	8.1
85°	7.1	5.0	7.1	4.1	6.0	4.1	5.0	5.0	3.1	3.1	3.1
87.5°	1.0	0.0	2.0	0.0	2.0	0.0	1.0	1.0	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

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CANDELA DISTRIBUTION (continued):

	175°	180°
0°	442.2	442.2
2.5°	400.7	401.7
5°	351.1	354.1
7.5°	296.5	298.5
10°	238.8	240.8
12.5°	184.1	186.2
15°	138.6	136.6
17.5°	106.3	104.2
20°	90.0	90.0
22.5°	88.1	87.1
25°	89.0	88.1
27.5°	89.0	88.1
30°	87.1	86.0
32.5°	84.0	83.0
35°	80.9	80.9
37.5°	79.0	79.9
40°	75.9	76.9
42.5°	72.8	73.9
45°	69.9	70.8
47.5°	66.8	66.8
50°	62.7	62.7
52.5°	61.7	61.7
55°	61.7	61.7
57.5°	63.7	63.7
60°	69.9	70.8
62.5°	81.9	83.0
65°	94.1	96.2
67.5°	95.1	98.2
70°	92.1	95.1
72.5°	63.7	63.7
74°	28.3	27.3
75°	24.2	23.3
77.5°	18.2	18.2
80°	13.2	12.2
82.5°	7.1	7.1
85°	2.0	2.0
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)