

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: P227968

Luminaire Tested: **ISS-AF-450-LED-E1-T4W-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227968
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29757)
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-T4W-7050
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV WIDE
Light Source: (16) 5000K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2996 lumens
Efficiency: N/A
Efficacy: 118.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

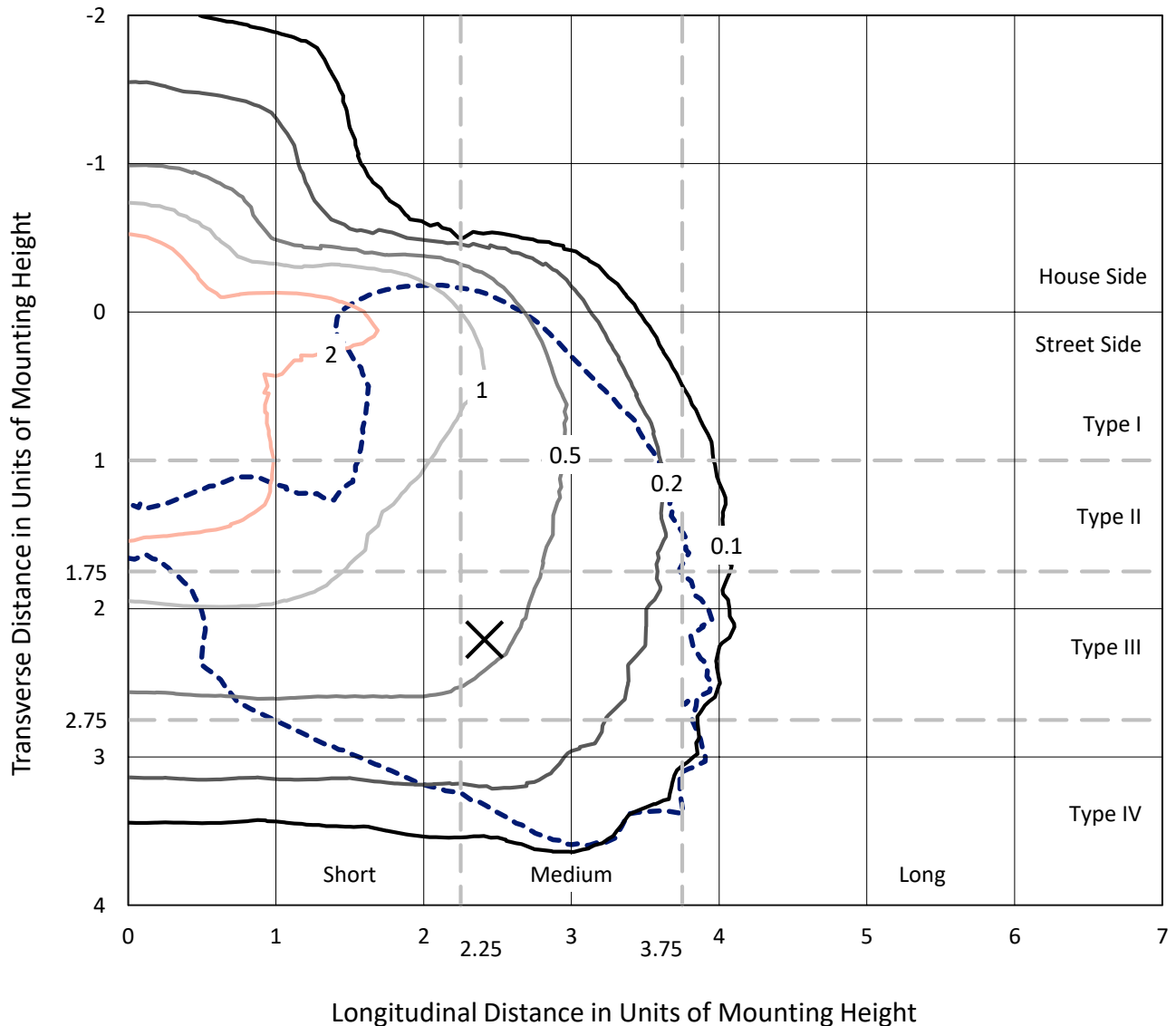
Input Watts (W): 25.31
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

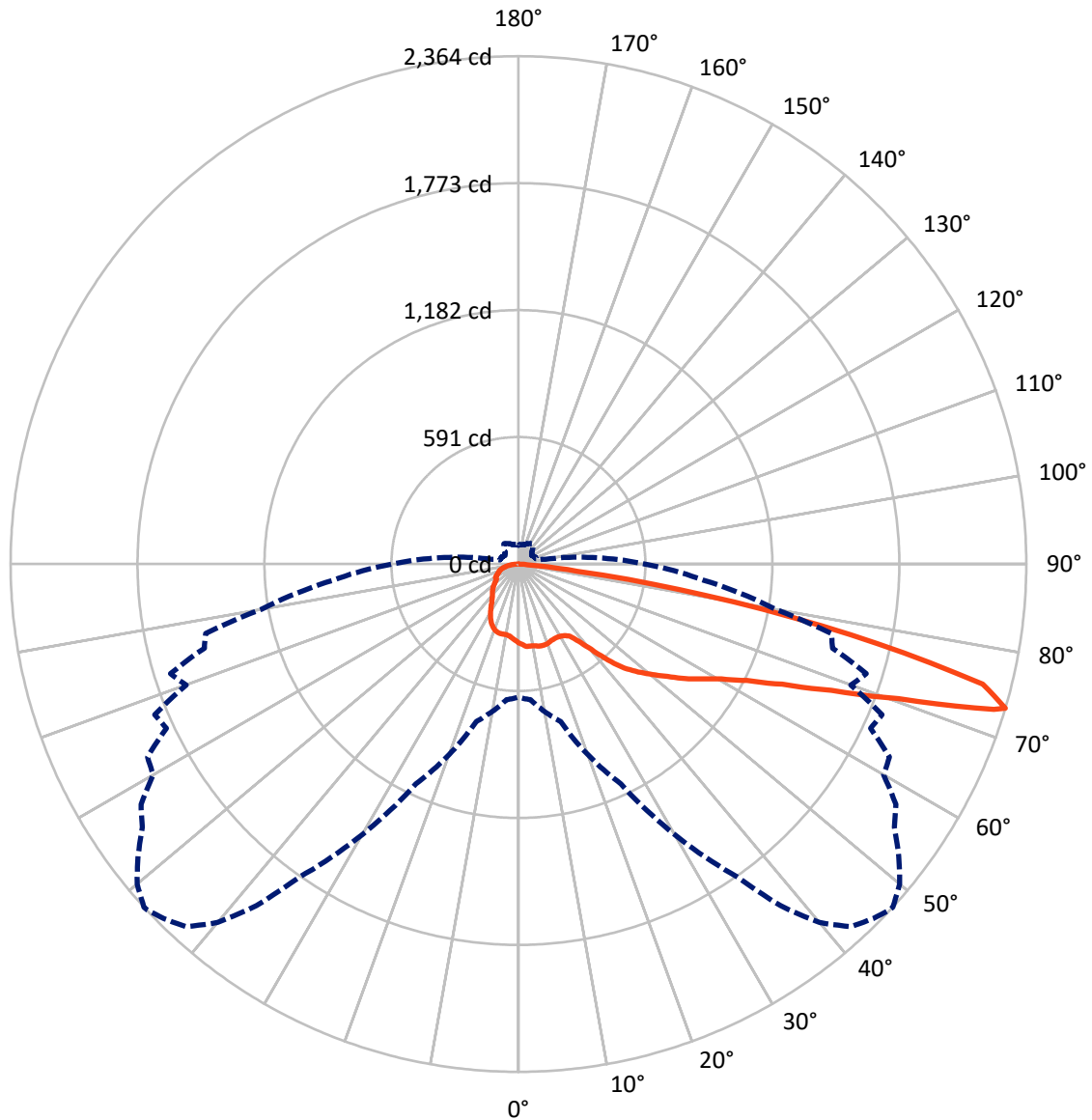
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.3 fc
 Type IV - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47.5-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	598.6	0.0	598.6
	% Fixture	20.0	0.0	20.0
Street Side	Lumens	2397.4	0.0	2397.4
	% Fixture	80.0	0.0	80.0
Total	Lumens	2996.0	0.0	2996.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.0	1.2
10°-20°	104.2	3.5
20°-30°	160.2	5.3
30°-40°	233.8	7.8
40°-50°	385.4	12.9
50°-60°	603.5	20.1
60°-70°	818.6	27.3
70°-80°	606.2	20.2
80°-90°	49.0	1.6
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°	2996.0	100.0
0°-180°	2996.0	100.0



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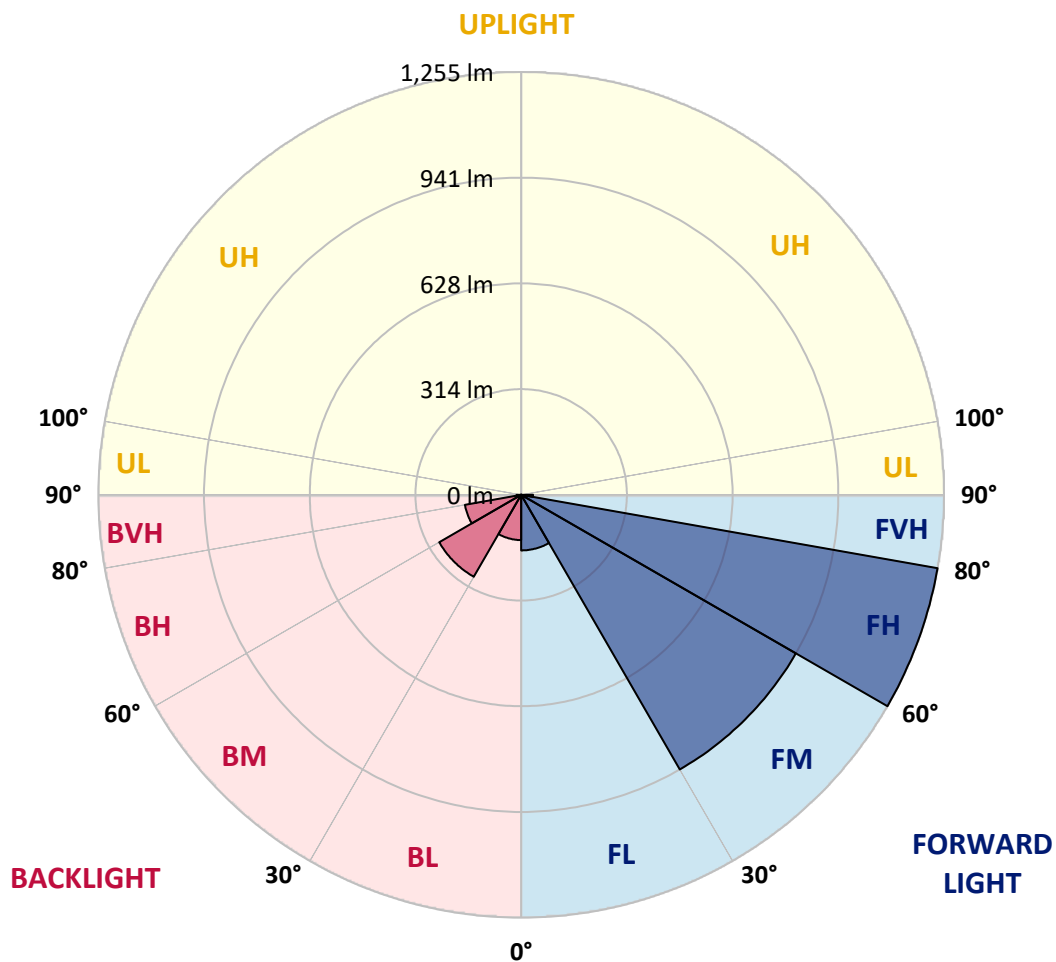
CATALOG NUMBER: ISS-AF-450-LED-E1-T4W-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	165.1	5.5			
FM	(30°-60°)	941.6	31.4			
FH	(60°-80°)	1255.3	41.9			G1/1800
FVH	(80°-90°)	35.3	1.2			G1/100
BL	(0°-30°)	134.4	4.5	B1/500		
BM	(30°-60°)	281.1	9.4	B1/1000		
BH	(60°-80°)	169.5	5.7	B1/500		G1/500
BVH	(80°-90°)	13.6	0.5			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 IV Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47°	47.5°
0°	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9
2.5°	389.7	388.7	385.7	384.7	381.8	379.8	378.8	377.8	380.8	378.8	375.8
5°	414.4	412.4	408.5	402.5	396.6	392.6	391.6	389.7	389.7	387.7	385.7
7.5°	432.2	431.2	425.3	416.4	406.5	399.6	395.6	392.6	393.6	391.6	385.7
10°	449.0	447.0	437.1	426.3	411.4	403.5	398.6	393.6	397.6	394.6	386.7
12.5°	461.9	459.9	446.0	432.2	415.4	406.5	401.5	398.6	402.5	400.5	391.6
15°	468.8	466.8	453.0	436.2	418.3	408.5	406.5	404.5	407.5	403.5	395.6
17.5°	464.8	464.8	452.0	434.2	419.3	409.4	406.5	404.5	408.5	404.5	395.6
20°	450.0	452.0	443.1	424.3	413.4	406.5	403.5	399.6	403.5	399.6	393.6
22.5°	431.2	433.2	428.2	411.4	403.5	398.6	397.6	393.6	396.6	393.6	387.7
25°	414.4	414.4	412.4	397.6	396.6	392.6	393.6	391.6	393.6	389.7	385.7
27.5°	415.4	415.4	407.5	392.6	391.6	391.6	391.6	391.6	392.6	389.7	385.7
30°	473.7	475.7	453.0	411.4	396.6	394.6	395.6	394.6	395.6	394.6	389.7
32.5°	561.8	561.8	540.0	475.7	423.3	410.4	405.5	404.5	401.5	400.5	396.6
35°	648.8	647.8	626.0	554.8	488.6	463.8	448.0	433.2	426.3	419.3	412.4
37.5°	722.0	719.0	716.0	634.9	565.7	537.0	518.2	496.5	482.6	470.8	454.9
40°	790.2	795.2	806.0	709.1	642.9	616.1	597.4	569.7	555.8	541.0	522.2
42.5°	884.2	891.1	892.1	789.2	713.1	695.3	680.4	659.7	644.8	627.0	610.2
45°	975.2	976.1	979.1	875.3	799.1	776.4	765.5	745.7	726.9	704.2	690.3
47.5°	1037.5	1034.5	1047.4	974.2	900.0	874.3	858.5	828.8	800.1	771.4	750.7
50°	1113.6	1110.7	1110.7	1086.9	1016.7	987.0	959.3	903.9	873.3	837.7	808.0
52.5°	1180.9	1170.0	1176.9	1190.8	1139.3	1101.7	1053.3	991.0	950.4	906.9	869.3
55°	1272.8	1216.5	1232.3	1280.8	1261.0	1202.6	1138.3	1072.1	1025.6	976.1	941.5
57.5°	1241.2	1202.6	1249.1	1334.2	1333.2	1278.8	1224.4	1143.3	1096.8	1050.3	1007.8
60°	1127.5	1147.2	1248.1	1370.8	1375.7	1333.2	1288.7	1213.5	1176.9	1128.5	1085.9
62.5°	1039.4	1068.1	1206.6	1367.8	1424.2	1384.6	1348.0	1303.5	1277.8	1237.2	1193.7
65°	1034.5	1051.3	1185.8	1364.8	1492.4	1471.6	1454.8	1434.1	1429.1	1399.4	1349.0
67.5°	1082.0	1097.8	1221.4	1441.0	1593.3	1584.4	1609.1	1605.2	1626.9	1612.1	1570.5
70°	989.0	997.9	1150.2	1467.7	1823.7	1863.3	1918.7	1915.7	1962.2	1926.6	1878.1
72.5°	694.3	712.1	846.6	1212.5	1828.7	2040.3	2168.9	2277.7	2328.1	2337.0	2314.3
73°	620.1	634.0	758.6	1129.4	1779.2	2004.7	2177.8	2289.5	2334.0	2361.7	2363.7
75°	215.6	222.5	331.3	684.4	1422.2	1749.5	1972.1	2073.0	2062.1	2143.2	2232.2
77.5°	69.2	70.2	86.0	177.0	686.4	1085.9	1334.2	1427.1	1373.7	1461.7	1580.4
80°	42.5	44.5	56.4	80.1	180.0	329.3	557.8	698.2	669.6	751.6	878.2
82.5°	25.7	26.7	34.6	49.5	72.2	80.1	104.8	142.4	175.1	210.7	275.9
85°	11.9	12.9	16.8	22.7	29.7	30.7	29.7	27.7	31.6	36.6	42.5
87.5°	0.0	0.0	1.0	2.0	1.0	0.0	0.0	0.0	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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CANDELA DISTRIBUTION (continued):

	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9
2.5°	378.8	375.8	375.8	371.9	373.8	369.9	371.9	367.9	369.9	364.9	367.9
5°	384.7	379.8	379.8	373.8	374.8	367.9	370.9	363.0	366.9	358.0	364.0
7.5°	387.7	378.8	382.7	371.9	376.8	364.9	370.9	358.0	365.9	352.1	362.0
10°	391.6	378.8	385.7	373.8	379.8	365.9	373.8	358.0	367.9	351.1	360.0
12.5°	397.6	383.7	389.7	375.8	383.7	367.9	375.8	360.0	369.9	351.1	362.0
15°	401.5	387.7	393.6	379.8	385.7	367.9	377.8	359.0	369.9	350.1	362.0
17.5°	400.5	387.7	393.6	377.8	384.7	366.9	376.8	358.0	367.9	347.1	360.0
20°	396.6	385.7	389.7	375.8	381.8	364.0	372.9	354.1	364.9	344.2	357.0
22.5°	391.6	380.8	385.7	372.9	378.8	361.0	368.9	352.1	363.0	342.2	354.1
25°	388.7	379.8	382.7	369.9	377.8	362.0	369.9	351.1	363.0	342.2	356.0
27.5°	387.7	379.8	385.7	373.8	380.8	366.9	374.8	358.0	367.9	346.2	360.0
30°	393.6	386.7	391.6	381.8	387.7	373.8	381.8	365.9	375.8	355.1	370.9
32.5°	400.5	393.6	398.6	389.7	398.6	384.7	394.6	378.8	390.7	369.9	384.7
35°	415.4	407.5	414.4	404.5	414.4	403.5	414.4	397.6	412.4	391.6	407.5
37.5°	454.0	432.2	439.1	428.2	438.1	424.3	443.1	426.3	443.1	423.3	445.1
40°	515.3	476.7	483.6	460.9	475.7	454.9	477.7	464.8	487.6	462.9	490.5
42.5°	595.4	558.8	551.9	517.2	530.1	505.4	528.1	505.4	536.0	512.3	546.9
45°	668.6	630.0	619.1	585.5	594.4	561.8	590.4	558.8	599.3	571.6	615.2
47.5°	728.9	683.4	674.5	635.9	651.8	621.1	656.7	623.1	672.5	644.8	695.3
50°	784.3	727.9	725.9	684.4	711.1	680.4	730.9	708.1	756.6	728.9	788.2
52.5°	847.6	776.4	786.3	748.7	791.2	765.5	823.8	791.2	854.5	824.8	890.1
55°	914.8	839.7	865.4	842.6	893.1	876.3	925.7	896.0	958.3	928.7	997.9
57.5°	989.0	924.7	970.2	959.3	1003.8	983.1	1038.5	1011.8	1074.1	1049.3	1118.6
60°	1085.9	1043.4	1087.9	1086.9	1125.5	1124.5	1160.1	1144.3	1203.6	1192.7	1256.0
62.5°	1211.5	1177.9	1225.4	1212.5	1259.0	1251.1	1294.6	1294.6	1337.1	1352.0	1415.3
65°	1380.6	1336.1	1392.5	1372.7	1419.2	1421.2	1448.9	1453.8	1505.3	1522.1	1576.5
67.5°	1610.1	1558.7	1603.2	1565.6	1619.0	1616.0	1639.8	1649.7	1656.6	1697.1	1703.1
70°	1940.4	1863.3	1903.8	1852.4	1862.3	1869.2	1824.7	1857.3	1778.2	1842.5	1755.5
72.5°	2297.5	2209.4	2139.2	2087.8	1985.9	1971.1	1841.5	1869.2	1701.1	1756.5	1580.4
73°	2316.2	2231.2	2136.2	2082.8	1962.2	1946.4	1807.9	1831.6	1645.7	1698.1	1513.2
75°	2105.6	2128.3	1899.9	1921.6	1712.0	1736.7	1520.1	1547.8	1319.3	1358.9	1120.5
77.5°	1419.2	1495.4	1239.2	1335.2	1075.0	1171.0	877.2	886.1	646.8	604.3	410.4
80°	703.2	768.5	544.9	595.4	399.6	392.6	239.3	198.8	169.1	173.1	178.0
82.5°	202.7	228.5	141.4	140.4	99.9	94.9	94.9	100.9	102.9	114.7	111.8
85°	38.6	46.5	40.5	54.4	48.5	53.4	49.5	57.4	53.4	66.3	57.4
87.5°	1.0	0.0	1.0	3.0	3.0	6.9	4.9	7.9	7.9	13.8	12.9
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°	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9
2.5°	364.0	368.9	366.9	364.9	363.0	362.0	358.0	360.0	355.1	359.0	355.1
5°	356.0	362.0	359.0	355.1	353.1	351.1	344.2	349.1	341.2	348.1	342.2
7.5°	347.1	357.0	354.1	350.1	346.2	344.2	330.3	341.2	329.3	339.2	329.3
10°	344.2	355.1	351.1	346.2	342.2	340.2	323.4	336.3	323.4	334.3	321.4
12.5°	342.2	355.1	349.1	344.2	340.2	337.3	318.5	334.3	317.5	333.3	318.5
15°	340.2	355.1	347.1	341.2	337.3	334.3	314.5	332.3	313.5	331.3	314.5
17.5°	338.2	352.1	345.2	338.2	334.3	332.3	310.5	329.3	309.6	329.3	312.5
20°	335.3	349.1	341.2	334.3	330.3	327.4	305.6	325.4	304.6	324.4	305.6
22.5°	331.3	346.2	339.2	332.3	328.3	323.4	299.7	320.4	298.7	318.5	300.7
25°	332.3	348.1	339.2	332.3	326.4	321.4	295.7	318.5	293.7	313.5	293.7
27.5°	337.3	351.1	342.2	336.3	328.3	322.4	295.7	316.5	291.8	308.6	287.8
30°	347.1	361.0	353.1	344.2	337.3	329.3	300.7	317.5	291.8	302.6	281.9
32.5°	364.0	376.8	368.9	362.0	354.1	342.2	310.5	322.4	293.7	298.7	276.9
35°	385.7	401.5	397.6	392.6	382.7	362.0	327.4	329.3	297.7	294.7	270.0
37.5°	421.3	443.1	442.1	441.1	430.2	392.6	346.2	343.2	301.6	291.8	261.1
40°	467.8	493.5	500.4	507.4	484.6	429.2	367.9	357.0	303.6	285.8	247.3
42.5°	522.2	556.8	577.6	590.4	548.9	469.8	392.6	372.9	303.6	276.9	231.4
45°	589.4	630.0	669.6	683.4	620.1	513.3	418.3	385.7	299.7	263.1	210.7
47.5°	671.5	719.0	773.4	780.3	697.2	559.8	436.2	394.6	286.8	244.3	191.9
50°	762.5	819.9	900.0	895.0	779.3	608.2	448.0	400.5	264.1	222.5	169.1
52.5°	864.4	936.6	1050.3	1027.6	879.2	668.6	458.9	408.5	236.4	196.8	146.4
55°	992.0	1078.0	1220.4	1172.0	990.0	734.8	474.7	409.4	199.8	166.2	129.6
57.5°	1129.4	1221.4	1403.4	1315.4	1093.8	786.3	467.8	377.8	163.2	140.4	116.7
60°	1294.6	1406.4	1586.4	1448.9	1180.9	804.1	419.3	311.5	139.4	126.6	110.8
62.5°	1479.5	1590.3	1736.7	1541.9	1230.3	774.4	311.5	215.6	119.7	112.7	101.9
65°	1676.4	1781.2	1808.9	1549.8	1197.7	643.8	192.9	141.4	103.8	100.9	94.0
67.5°	1857.3	1867.2	1740.6	1421.2	1039.4	449.0	131.5	112.7	95.9	94.9	91.0
70°	1903.8	1732.7	1446.9	1106.7	750.7	267.0	106.8	97.9	92.0	92.0	89.0
72.5°	1590.3	1319.3	967.2	670.5	409.4	142.4	91.0	89.0	87.0	87.0	85.1
73°	1491.4	1215.5	866.4	585.5	346.2	127.6	89.0	87.0	86.0	85.1	84.1
75°	991.0	763.5	491.5	296.7	161.2	92.0	79.1	79.1	78.1	79.1	78.1
77.5°	381.8	287.8	189.9	127.6	92.0	72.2	67.3	68.2	67.3	69.2	68.2
80°	168.1	166.2	125.6	90.0	67.3	54.4	54.4	54.4	55.4	56.4	56.4
82.5°	114.7	96.9	74.2	55.4	40.5	39.6	40.5	40.5	41.5	42.5	41.5
85°	63.3	53.4	39.6	24.7	21.8	26.7	26.7	26.7	25.7	25.7	24.7
87.5°	19.8	14.8	10.9	3.0	4.9	4.9	6.9	5.9	5.9	6.9	6.9
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: ISS-AF-450-LED-E1-T4W-7050

CANDELA DISTRIBUTION (continued):

	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°
0°	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9	367.9
2.5°	359.0	356.0	359.0	354.1	358.0	354.1	357.0	357.0	356.0	356.0	356.0
5°	347.1	342.2	347.1	344.2	347.1	343.2	346.2	347.1	348.1	351.1	350.1
7.5°	338.2	328.3	339.2	329.3	338.2	329.3	337.3	338.2	341.2	345.2	348.1
10°	334.3	321.4	334.3	322.4	333.3	323.4	333.3	334.3	337.3	342.2	347.1
12.5°	332.3	318.5	332.3	320.4	332.3	322.4	332.3	335.3	337.3	341.2	347.1
15°	330.3	316.5	332.3	319.4	332.3	322.4	333.3	335.3	338.2	342.2	347.1
17.5°	329.3	313.5	330.3	318.5	330.3	320.4	332.3	332.3	336.3	341.2	344.2
20°	325.4	310.5	325.4	313.5	325.4	316.5	326.4	326.4	330.3	332.3	337.3
22.5°	319.4	303.6	317.5	306.6	317.5	308.6	316.5	316.5	319.4	322.4	325.4
25°	310.5	295.7	307.6	297.7	305.6	297.7	303.6	302.6	304.6	306.6	308.6
27.5°	300.7	285.8	295.7	284.8	289.8	281.9	285.8	283.8	284.8	285.8	286.8
30°	289.8	274.9	279.9	270.0	271.0	263.1	265.1	262.1	261.1	260.1	258.1
32.5°	277.9	262.1	262.1	252.2	250.2	243.3	243.3	239.3	236.4	232.4	228.5
35°	263.1	249.2	242.3	234.4	230.4	223.5	222.5	217.6	210.7	203.7	199.8
37.5°	248.2	232.4	222.5	214.6	210.7	205.7	204.7	200.8	192.9	184.9	179.0
40°	228.5	212.6	201.8	198.8	195.8	191.9	192.9	187.9	180.0	171.1	166.2
42.5°	208.7	194.8	185.9	184.9	183.0	182.0	183.0	179.0	170.1	162.2	156.3
45°	191.9	178.0	169.1	168.1	167.1	171.1	172.1	171.1	161.2	153.3	145.4
47.5°	175.1	158.2	152.3	150.3	151.3	157.3	159.2	162.2	153.3	144.4	133.5
50°	155.3	139.4	137.5	135.5	136.5	141.4	146.4	152.3	144.4	131.5	116.7
52.5°	137.5	123.6	124.6	122.6	124.6	128.6	132.5	142.4	132.5	119.7	112.7
55°	123.6	112.7	114.7	112.7	114.7	119.7	122.6	130.5	130.5	127.6	121.6
57.5°	113.7	105.8	107.8	105.8	108.8	112.7	115.7	132.5	142.4	134.5	122.6
60°	107.8	100.9	101.9	99.9	101.9	107.8	113.7	133.5	149.3	133.5	124.6
62.5°	98.9	93.0	92.0	92.0	94.0	103.8	106.8	124.6	147.4	132.5	125.6
65°	93.0	88.0	87.0	86.0	88.0	94.9	97.9	115.7	142.4	125.6	113.7
67.5°	90.0	86.0	84.1	82.1	84.1	90.0	93.0	108.8	134.5	119.7	106.8
70°	87.0	83.1	82.1	80.1	81.1	85.1	89.0	99.9	127.6	112.7	99.9
72.5°	83.1	79.1	78.1	75.2	76.2	80.1	82.1	94.0	118.7	105.8	93.0
73°	82.1	78.1	77.1	74.2	75.2	78.1	80.1	92.0	116.7	104.8	92.0
75°	77.1	73.2	72.2	70.2	71.2	71.2	73.2	84.1	110.8	98.9	86.0
77.5°	68.2	65.3	64.3	62.3	61.3	60.3	63.3	74.2	100.9	89.0	69.2
80°	56.4	53.4	52.4	48.5	48.5	48.5	52.4	63.3	75.2	64.3	53.4
82.5°	41.5	39.6	39.6	36.6	35.6	34.6	37.6	43.5	59.3	50.4	41.5
85°	24.7	23.7	24.7	21.8	22.7	21.8	24.7	30.7	32.6	25.7	19.8
87.5°	5.9	6.9	6.9	6.9	5.9	5.9	4.9	4.0	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°	367.9	367.9
2.5°	355.1	354.1
5°	350.1	350.1
7.5°	348.1	348.1
10°	349.1	349.1
12.5°	349.1	351.1
15°	352.1	351.1
17.5°	349.1	349.1
20°	341.2	343.2
22.5°	330.3	330.3
25°	312.5	313.5
27.5°	288.8	290.8
30°	259.1	261.1
32.5°	225.5	227.5
35°	198.8	199.8
37.5°	181.0	181.0
40°	166.2	166.2
42.5°	152.3	151.3
45°	138.5	136.5
47.5°	124.6	123.6
50°	112.7	112.7
52.5°	114.7	114.7
55°	123.6	123.6
57.5°	124.6	123.6
60°	135.5	134.5
62.5°	141.4	144.4
65°	123.6	119.7
67.5°	117.7	111.8
70°	105.8	96.9
72.5°	94.0	89.0
73°	91.0	87.0
75°	81.1	79.1
77.5°	61.3	60.3
80°	51.4	50.4
82.5°	34.6	32.6
85°	14.8	13.8
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)