

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: P227965

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227965
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
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV WIDE
Light Source: (16) 4000K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3064.7 lumens
Efficiency: N/A
Efficacy: 121.1 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

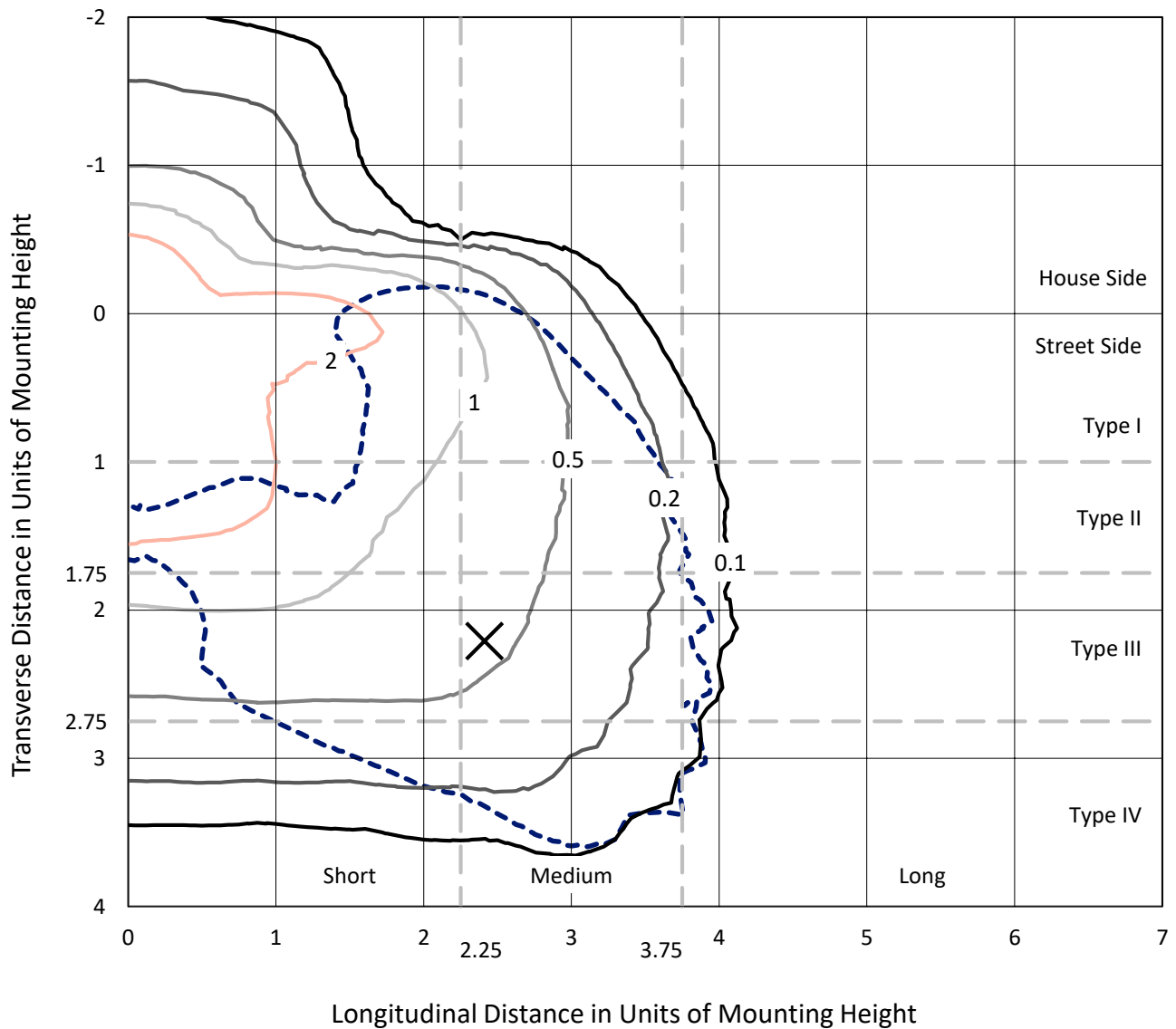


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Iso-Footcandle Lines of Horizontal Illumination

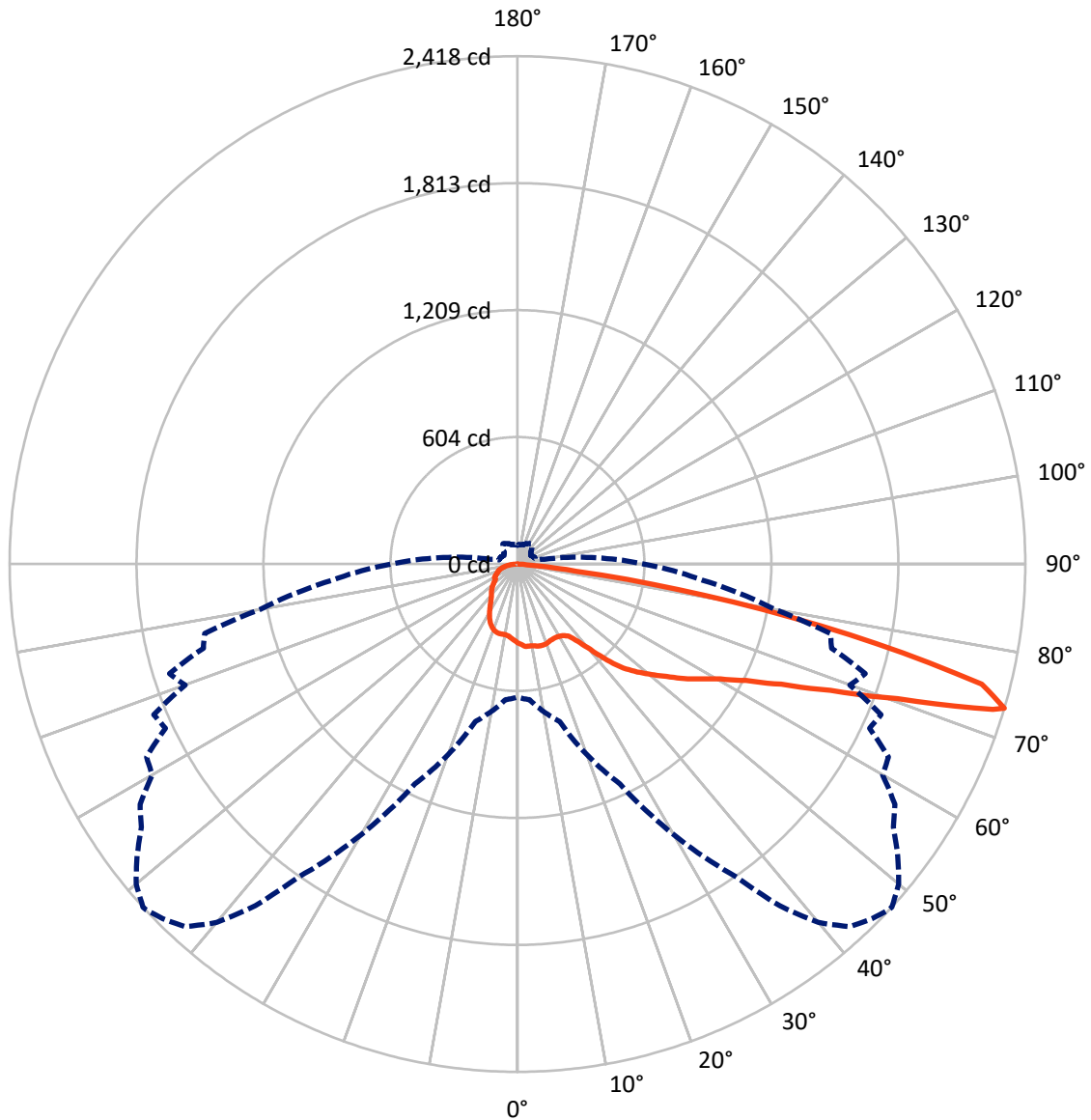
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.4 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	612.3	0.0	612.3
	% Fixture	20.0	0.0	20.0
Street Side	Lumens	2452.4	0.0	2452.4
	% Fixture	80.0	0.0	80.0
Total	Lumens	3064.7	0.0	3064.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.8	1.2
10°-20°	106.6	3.5
20°-30°	163.9	5.3
30°-40°	239.1	7.8
40°-50°	394.3	12.9
50°-60°	617.3	20.1
60°-70°	837.4	27.3
70°-80°	620.1	20.2
80°-90°	50.1	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°	3064.7	100.0
0°-180°	3064.7	100.0



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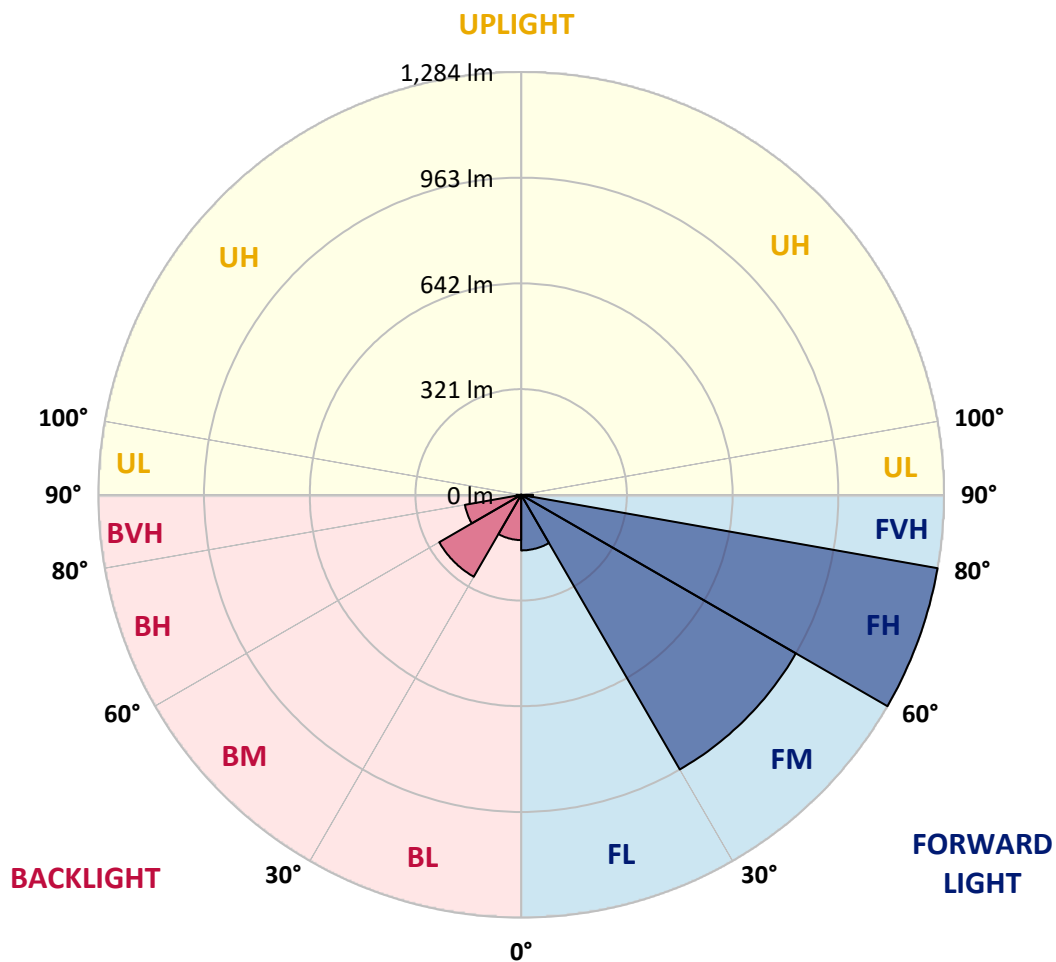
CATALOG NUMBER: ISS-AF-450-LED-E1-T4W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	168.9	5.5			
FM	(30°-60°)	963.2	31.4			
FH	(60°-80°)	1284.1	41.9			G1/1800
FVH	(80°-90°)	36.1	1.2			G1/100
BL	(0°-30°)	137.4	4.5	B1/500		
BM	(30°-60°)	287.5	9.4	B1/1000		
BH	(60°-80°)	173.4	5.7	B1/500		G1/500
BVH	(80°-90°)	14.0	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°	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3
2.5°	398.6	397.6	394.6	393.5	390.6	388.5	387.5	386.5	389.5	387.5	384.4
5°	423.9	421.9	417.9	411.7	405.7	401.6	400.6	398.6	398.6	396.6	394.6
7.5°	442.1	441.1	435.1	426.0	415.8	408.8	404.7	401.6	402.6	400.6	394.6
10°	459.3	457.3	447.1	436.1	420.8	412.8	407.7	402.6	406.7	403.7	395.6
12.5°	472.5	470.5	456.2	442.1	424.9	415.8	410.7	407.7	411.7	409.7	400.6
15°	479.6	477.5	463.4	446.2	427.9	417.9	415.8	413.8	416.9	412.8	404.7
17.5°	475.5	475.5	462.4	444.2	428.9	418.8	415.8	413.8	417.9	413.8	404.7
20°	460.3	462.4	453.3	434.0	422.9	415.8	412.8	408.8	412.8	408.8	402.6
22.5°	441.1	443.1	438.0	420.8	412.8	407.7	406.7	402.6	405.7	402.6	396.6
25°	423.9	423.9	421.9	406.7	405.7	401.6	402.6	400.6	402.6	398.6	394.6
27.5°	424.9	424.9	416.9	401.6	400.6	400.6	400.6	400.6	401.6	398.6	394.6
30°	484.6	486.6	463.4	420.8	405.7	403.7	404.7	403.7	404.7	403.7	398.6
32.5°	574.7	574.7	552.4	486.6	433.0	419.8	414.8	413.8	410.7	409.7	405.7
35°	663.7	662.7	640.4	567.5	499.8	474.4	458.3	443.1	436.1	428.9	421.9
37.5°	738.6	735.5	732.4	649.5	578.7	549.3	530.1	507.9	493.7	481.6	465.3
40°	808.3	813.5	824.5	725.4	657.7	630.2	611.1	582.8	568.6	553.4	534.2
42.5°	904.5	911.6	912.6	807.3	729.5	711.3	696.0	674.8	659.6	641.4	624.2
45°	997.6	998.5	1001.6	895.4	817.4	794.2	783.1	762.8	743.6	720.4	706.1
47.5°	1061.3	1058.2	1071.4	996.6	920.7	894.4	878.2	847.8	818.5	789.1	767.9
50°	1139.2	1136.2	1136.2	1111.8	1040.0	1009.7	981.3	924.6	893.3	856.9	826.5
52.5°	1208.0	1196.9	1203.9	1218.1	1165.4	1127.0	1077.5	1013.7	972.2	927.7	889.3
55°	1302.0	1244.4	1260.6	1310.2	1289.9	1230.2	1164.4	1096.7	1049.1	998.5	963.1
57.5°	1269.7	1230.2	1277.8	1364.8	1363.8	1308.1	1252.5	1169.5	1122.0	1074.4	1030.9
60°	1153.4	1173.5	1276.7	1402.3	1407.3	1363.8	1318.3	1241.4	1203.9	1154.4	1110.8
62.5°	1063.3	1092.6	1234.3	1399.2	1456.9	1416.4	1378.9	1333.4	1307.1	1265.6	1221.1
65°	1058.2	1075.4	1213.0	1396.1	1526.7	1505.4	1488.2	1467.0	1461.9	1431.5	1380.0
67.5°	1106.8	1123.0	1249.4	1474.1	1629.9	1620.8	1646.0	1642.0	1664.2	1649.1	1606.5
70°	1011.7	1020.8	1176.6	1501.4	1865.6	1906.1	1962.7	1959.7	2007.2	1970.8	1921.2
72.5°	710.2	728.4	866.0	1240.3	1870.7	2087.1	2218.7	2330.0	2381.5	2390.6	2367.4
73°	634.3	648.6	776.0	1155.3	1820.0	2050.7	2227.8	2342.0	2387.6	2415.9	2417.9
75°	220.5	227.6	338.9	700.1	1454.8	1789.7	2017.4	2120.6	2109.4	2192.4	2283.4
77.5°	70.8	71.8	88.0	181.1	702.2	1110.8	1364.8	1459.9	1405.2	1495.2	1616.7
80°	43.5	45.5	57.7	81.9	184.1	336.9	570.6	714.2	685.0	768.8	898.4
82.5°	26.3	27.3	35.4	50.6	73.9	81.9	107.2	145.7	179.1	215.5	282.2
85°	12.2	13.2	17.2	23.2	30.4	31.4	30.4	28.3	32.3	37.4	43.5
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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CATALOG NUMBER: ISS-AF-450-LED-E1-T4W

CANDELA DISTRIBUTION (continued):

	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3
2.5°	387.5	384.4	384.4	380.4	382.4	378.4	380.4	376.3	378.4	373.3	376.3
5°	393.5	388.5	388.5	382.4	383.4	376.3	379.4	371.3	375.3	366.2	372.4
7.5°	396.6	387.5	391.5	380.4	385.4	373.3	379.4	366.2	374.3	360.2	370.3
10°	400.6	387.5	394.6	382.4	388.5	374.3	382.4	366.2	376.3	359.2	368.3
12.5°	406.7	392.5	398.6	384.4	392.5	376.3	384.4	368.3	378.4	359.2	370.3
15°	410.7	396.6	402.6	388.5	394.6	376.3	386.5	367.2	378.4	358.1	370.3
17.5°	409.7	396.6	402.6	386.5	393.5	375.3	385.4	366.2	376.3	355.1	368.3
20°	405.7	394.6	398.6	384.4	390.6	372.4	381.5	362.2	373.3	352.1	365.2
22.5°	400.6	389.5	394.6	381.5	387.5	369.3	377.4	360.2	371.3	350.1	362.2
25°	397.6	388.5	391.5	378.4	386.5	370.3	378.4	359.2	371.3	350.1	364.2
27.5°	396.6	388.5	394.6	382.4	389.5	375.3	383.4	366.2	376.3	354.1	368.3
30°	402.6	395.6	400.6	390.6	396.6	382.4	390.6	374.3	384.4	363.2	379.4
32.5°	409.7	402.6	407.7	398.6	407.7	393.5	403.7	387.5	399.7	378.4	393.5
35°	424.9	416.9	423.9	413.8	423.9	412.8	423.9	406.7	421.9	400.6	416.9
37.5°	464.4	442.1	449.2	438.0	448.2	434.0	453.3	436.1	453.3	433.0	455.3
40°	527.1	487.6	494.7	471.5	486.6	465.3	488.7	475.5	498.8	473.5	501.8
42.5°	609.1	571.6	564.6	529.1	542.3	517.0	540.2	517.0	548.3	524.1	559.5
45°	683.9	644.5	633.3	598.9	608.0	574.7	604.0	571.6	613.1	584.7	629.3
47.5°	745.6	699.1	690.0	650.5	666.8	635.4	671.8	637.4	687.9	659.6	711.3
50°	802.3	744.6	742.6	700.1	727.4	696.0	747.7	724.4	774.0	745.6	806.3
52.5°	867.1	794.2	804.3	765.9	809.4	783.1	842.7	809.4	874.1	843.7	910.5
55°	935.8	859.0	885.3	861.9	913.6	896.4	946.9	916.6	980.3	950.0	1020.8
57.5°	1011.7	945.9	992.5	981.3	1026.8	1005.7	1062.3	1035.0	1098.8	1073.4	1144.3
60°	1110.8	1067.3	1112.9	1111.8	1151.3	1150.3	1186.7	1170.6	1231.2	1220.1	1284.8
62.5°	1239.3	1204.9	1253.5	1240.3	1287.9	1279.8	1324.3	1324.3	1367.8	1383.0	1447.8
65°	1412.3	1366.8	1424.5	1404.2	1451.8	1453.8	1482.2	1487.2	1539.8	1557.0	1612.7
67.5°	1647.1	1594.5	1640.0	1601.5	1656.2	1653.1	1677.4	1687.6	1694.6	1736.0	1742.2
70°	1984.9	1906.1	1947.5	1894.9	1905.0	1912.1	1866.6	1899.9	1819.0	1884.8	1795.8
72.5°	2350.2	2260.1	2188.3	2135.7	2031.5	2016.3	1883.8	1912.1	1740.1	1796.8	1616.7
73°	2369.4	2282.4	2185.2	2130.6	2007.2	1991.1	1849.4	1873.6	1683.5	1737.1	1547.9
75°	2153.9	2177.1	1943.5	1965.7	1751.3	1776.6	1555.0	1583.3	1349.6	1390.1	1146.2
77.5°	1451.8	1529.7	1267.6	1365.8	1099.7	1197.9	897.3	906.4	661.6	618.2	419.8
80°	719.3	786.1	557.4	609.1	408.8	401.6	244.8	203.4	173.0	177.1	182.1
82.5°	207.4	233.7	144.6	143.6	102.2	97.1	97.1	103.2	105.3	117.3	114.4
85°	39.5	47.6	41.4	55.6	49.6	54.6	50.6	58.7	54.6	67.8	58.7
87.5°	1.0	0.0	1.0	3.1	3.1	7.1	5.0	8.1	8.1	14.1	13.2
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°	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3
2.5°	372.4	377.4	375.3	373.3	371.3	370.3	366.2	368.3	363.2	367.2	363.2
5°	364.2	370.3	367.2	363.2	361.2	359.2	352.1	357.1	349.0	356.1	350.1
7.5°	355.1	365.2	362.2	358.1	354.1	352.1	337.9	349.0	336.9	347.0	336.9
10°	352.1	363.2	359.2	354.1	350.1	348.0	330.8	344.0	330.8	342.0	328.8
12.5°	350.1	363.2	357.1	352.1	348.0	345.0	325.8	342.0	324.8	340.9	325.8
15°	348.0	363.2	355.1	349.0	345.0	342.0	321.7	339.9	320.7	338.9	321.7
17.5°	346.0	360.2	353.1	346.0	342.0	339.9	317.6	336.9	316.7	336.9	319.7
20°	343.0	357.1	349.0	342.0	337.9	334.9	312.6	332.9	311.6	331.8	312.6
22.5°	338.9	354.1	347.0	339.9	335.8	330.8	306.6	327.8	305.6	325.8	307.6
25°	339.9	356.1	347.0	339.9	333.9	328.8	302.5	325.8	300.4	320.7	300.4
27.5°	345.0	359.2	350.1	344.0	335.8	329.8	302.5	323.8	298.5	315.7	294.4
30°	355.1	369.3	361.2	352.1	345.0	336.9	307.6	324.8	298.5	309.5	288.4
32.5°	372.4	385.4	377.4	370.3	362.2	350.1	317.6	329.8	300.4	305.6	283.3
35°	394.6	410.7	406.7	401.6	391.5	370.3	334.9	336.9	304.5	301.5	276.2
37.5°	431.0	453.3	452.2	451.2	440.1	401.6	354.1	351.1	308.5	298.5	267.1
40°	478.5	504.8	511.9	519.0	495.7	439.1	376.3	365.2	310.6	292.4	253.0
42.5°	534.2	569.6	590.9	604.0	561.5	480.6	401.6	381.5	310.6	283.3	236.7
45°	602.9	644.5	685.0	699.1	634.3	525.1	427.9	394.6	306.6	269.1	215.5
47.5°	686.9	735.5	791.2	798.2	713.2	572.6	446.2	403.7	293.4	249.9	196.3
50°	780.0	838.7	920.7	915.5	797.2	622.2	458.3	409.7	270.2	227.6	173.0
52.5°	884.2	958.1	1074.4	1051.2	899.4	683.9	469.4	417.9	241.8	201.3	149.8
55°	1014.8	1102.7	1248.4	1198.9	1012.7	751.7	485.6	418.8	204.4	170.0	132.6
57.5°	1155.3	1249.4	1435.6	1345.6	1118.9	804.3	478.5	386.5	166.9	143.6	119.4
60°	1324.3	1438.7	1622.8	1482.2	1208.0	822.6	428.9	318.6	142.6	129.5	113.3
62.5°	1513.5	1626.8	1776.6	1577.3	1258.5	792.2	318.6	220.5	122.4	115.3	104.2
65°	1714.9	1822.1	1850.4	1585.4	1225.2	658.6	197.3	144.6	106.2	103.2	96.2
67.5°	1899.9	1910.1	1780.5	1453.8	1063.3	459.3	134.5	115.3	98.1	97.1	93.1
70°	1947.5	1772.5	1480.1	1132.1	767.9	273.1	109.3	100.1	94.1	94.1	91.0
72.5°	1626.8	1349.6	989.4	685.9	418.8	145.7	93.1	91.0	89.0	89.0	87.1
73°	1525.6	1243.4	886.3	598.9	354.1	130.5	91.0	89.0	88.0	87.1	86.0
75°	1013.7	781.0	502.8	303.5	164.9	94.1	80.9	80.9	79.9	80.9	79.9
77.5°	390.6	294.4	194.3	130.5	94.1	73.9	68.8	69.8	68.8	70.8	69.8
80°	172.0	170.0	128.5	92.1	68.8	55.6	55.6	55.6	56.7	57.7	57.7
82.5°	117.3	99.1	75.9	56.7	41.4	40.5	41.4	41.4	42.5	43.5	42.5
85°	64.8	54.6	40.5	25.3	22.3	27.3	27.3	27.3	26.3	26.3	25.3
87.5°	20.3	15.1	11.2	3.1	5.0	5.0	7.1	6.0	6.0	7.1	7.1
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: P227965

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

CANDELA DISTRIBUTION (continued):

	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°
0°	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3	376.3
2.5°	367.2	364.2	367.2	362.2	366.2	362.2	365.2	365.2	364.2	364.2	364.2
5°	355.1	350.1	355.1	352.1	355.1	351.1	354.1	355.1	356.1	359.2	358.1
7.5°	346.0	335.8	347.0	336.9	346.0	336.9	345.0	346.0	349.0	353.1	356.1
10°	342.0	328.8	342.0	329.8	340.9	330.8	340.9	342.0	345.0	350.1	355.1
12.5°	339.9	325.8	339.9	327.8	339.9	329.8	339.9	343.0	345.0	349.0	355.1
15°	337.9	323.8	339.9	326.7	339.9	329.8	340.9	343.0	346.0	350.1	355.1
17.5°	336.9	320.7	337.9	325.8	337.9	327.8	339.9	339.9	344.0	349.0	352.1
20°	332.9	317.6	332.9	320.7	332.9	323.8	333.9	333.9	337.9	339.9	345.0
22.5°	326.7	310.6	324.8	313.6	324.8	315.7	323.8	323.8	326.7	329.8	332.9
25°	317.6	302.5	314.7	304.5	312.6	304.5	310.6	309.5	311.6	313.6	315.7
27.5°	307.6	292.4	302.5	291.3	296.5	288.4	292.4	290.3	291.3	292.4	293.4
30°	296.5	281.2	286.3	276.2	277.2	269.1	271.2	268.1	267.1	266.1	264.0
32.5°	284.3	268.1	268.1	258.0	255.9	248.9	248.9	244.8	241.8	237.7	233.7
35°	269.1	254.9	247.9	239.8	235.7	228.6	227.6	222.6	215.5	208.4	204.4
37.5°	253.9	237.7	227.6	219.5	215.5	210.4	209.4	205.4	197.3	189.1	183.1
40°	233.7	217.5	206.4	203.4	200.3	196.3	197.3	192.2	184.1	175.0	170.0
42.5°	213.5	199.3	190.2	189.1	187.2	186.2	187.2	183.1	174.0	165.9	159.9
45°	196.3	182.1	173.0	172.0	170.9	175.0	176.0	175.0	164.9	156.8	148.7
47.5°	179.1	161.8	155.8	153.7	154.8	160.9	162.9	165.9	156.8	147.7	136.6
50°	158.9	142.6	140.7	138.6	139.6	144.6	149.8	155.8	147.7	134.5	119.4
52.5°	140.7	126.4	127.5	125.4	127.5	131.6	135.5	145.7	135.5	122.4	115.3
55°	126.4	115.3	117.3	115.3	117.3	122.4	125.4	133.5	133.5	130.5	124.4
57.5°	116.3	108.2	110.3	108.2	111.3	115.3	118.4	135.5	145.7	137.6	125.4
60°	110.3	103.2	104.2	102.2	104.2	110.3	116.3	136.6	152.7	136.6	127.5
62.5°	101.2	95.1	94.1	94.1	96.2	106.2	109.3	127.5	150.8	135.5	128.5
65°	95.1	90.0	89.0	88.0	90.0	97.1	100.1	118.4	145.7	128.5	116.3
67.5°	92.1	88.0	86.0	84.0	86.0	92.1	95.1	111.3	137.6	122.4	109.3
70°	89.0	85.0	84.0	81.9	83.0	87.1	91.0	102.2	130.5	115.3	102.2
72.5°	85.0	80.9	79.9	76.9	77.9	81.9	84.0	96.2	121.4	108.2	95.1
73°	84.0	79.9	78.9	75.9	76.9	79.9	81.9	94.1	119.4	107.2	94.1
75°	78.9	74.9	73.9	71.8	72.8	72.8	74.9	86.0	113.3	101.2	88.0
77.5°	69.8	66.8	65.8	63.7	62.7	61.7	64.8	75.9	103.2	91.0	70.8
80°	57.7	54.6	53.6	49.6	49.6	49.6	53.6	64.8	76.9	65.8	54.6
82.5°	42.5	40.5	40.5	37.4	36.4	35.4	38.5	44.5	60.7	51.6	42.5
85°	25.3	24.2	25.3	22.3	23.2	22.3	25.3	31.4	33.3	26.3	20.3
87.5°	6.0	7.1	7.1	7.1	6.0	6.0	5.0	4.1	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°	376.3	376.3
2.5°	363.2	362.2
5°	358.1	358.1
7.5°	356.1	356.1
10°	357.1	357.1
12.5°	357.1	359.2
15°	360.2	359.2
17.5°	357.1	357.1
20°	349.0	351.1
22.5°	337.9	337.9
25°	319.7	320.7
27.5°	295.4	297.5
30°	265.0	267.1
32.5°	230.7	232.7
35°	203.4	204.4
37.5°	185.2	185.2
40°	170.0	170.0
42.5°	155.8	154.8
45°	141.7	139.6
47.5°	127.5	126.4
50°	115.3	115.3
52.5°	117.3	117.3
55°	126.4	126.4
57.5°	127.5	126.4
60°	138.6	137.6
62.5°	144.6	147.7
65°	126.4	122.4
67.5°	120.4	114.4
70°	108.2	99.1
72.5°	96.2	91.0
73°	93.1	89.0
75°	83.0	80.9
77.5°	62.7	61.7
80°	52.6	51.6
82.5°	35.4	33.3
85°	15.1	14.1
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)