

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: P226631

Luminaire Tested: **ISW-AF-450-LED-E1-T4W-8030-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P226631
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35944)-DOWNLIGHT AND
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISW-AF-450-LED-E1-T4W-8030-ULG
Description: IMPACT ELITE LED WEDGE LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV WIDE, WITH UPLIGHT GLOW
Light Source: (16) 3000K CCT, 80 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4299.1 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type IV - Medium - Non-Cutoff
BUG Rating: B1 - U5 - G1

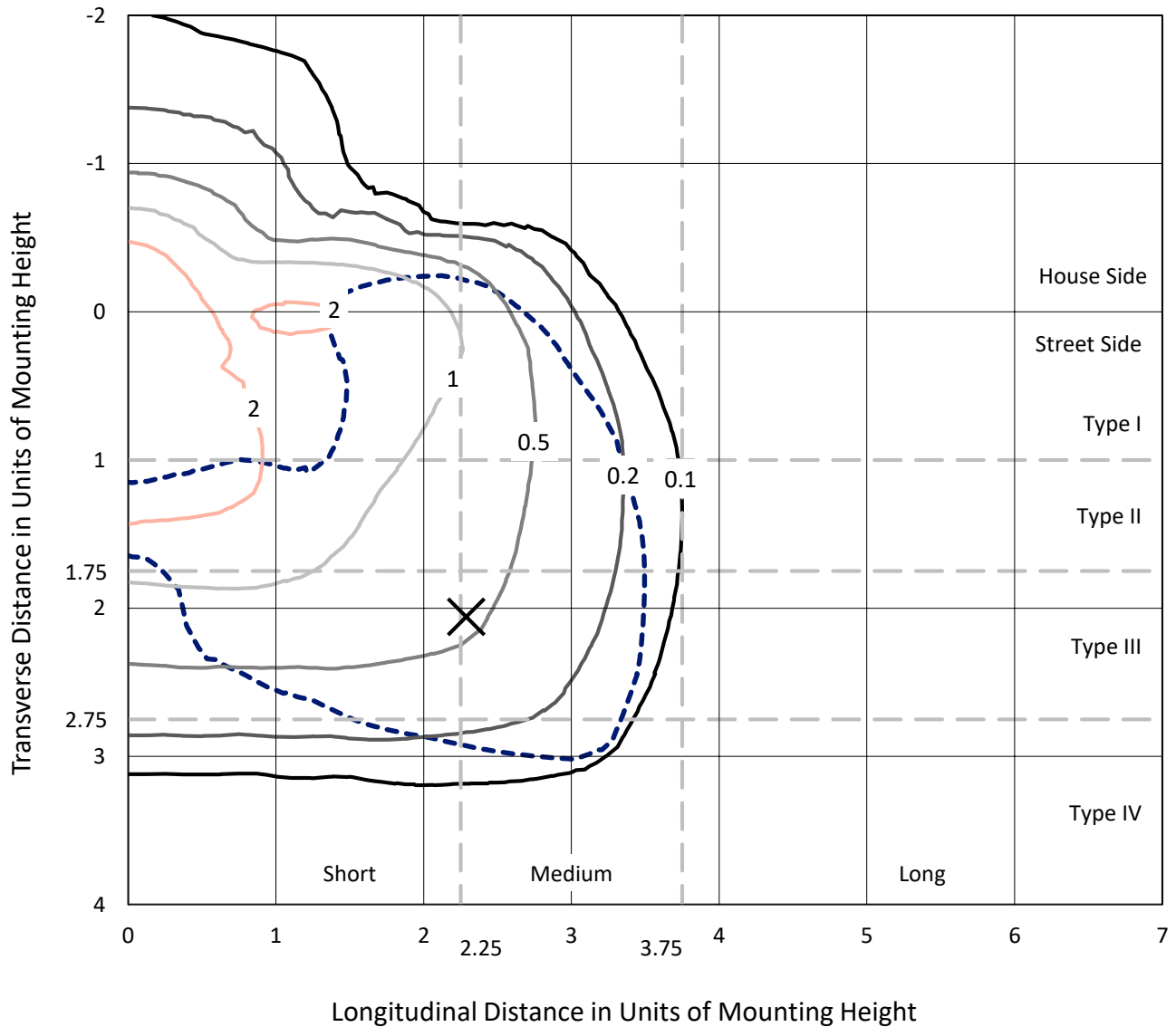
Input Watts (W): 42.01
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P226631
 CATALOG NUMBER: ISW-AF-450-LED-E1-T4W-8030-ULG

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

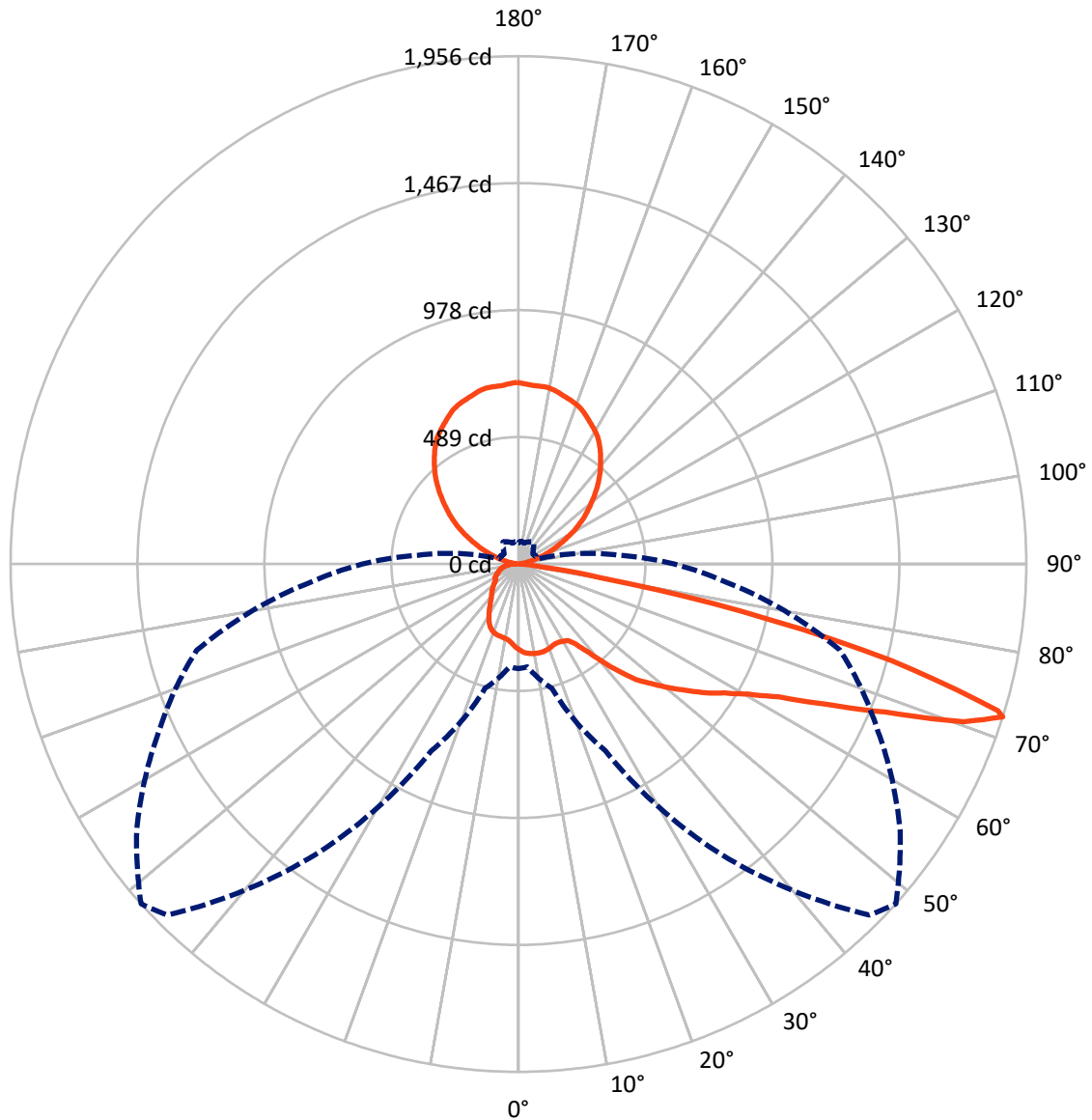


Based on 10 foot mounting height. Maximum calculated value = 3.7 fc
 Type IV - Medium - Non-Cutoff

REPORT NUMBER: P226631

CATALOG NUMBER: ISW-AF-450-LED-E1-T4W-8030-ULG

Luminous Intensity Polar Plot



— Vertical Plane Through 48-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

REPORT NUMBER: P226631

CATALOG NUMBER: ISW-AF-450-LED-E1-T4W-8030-ULG

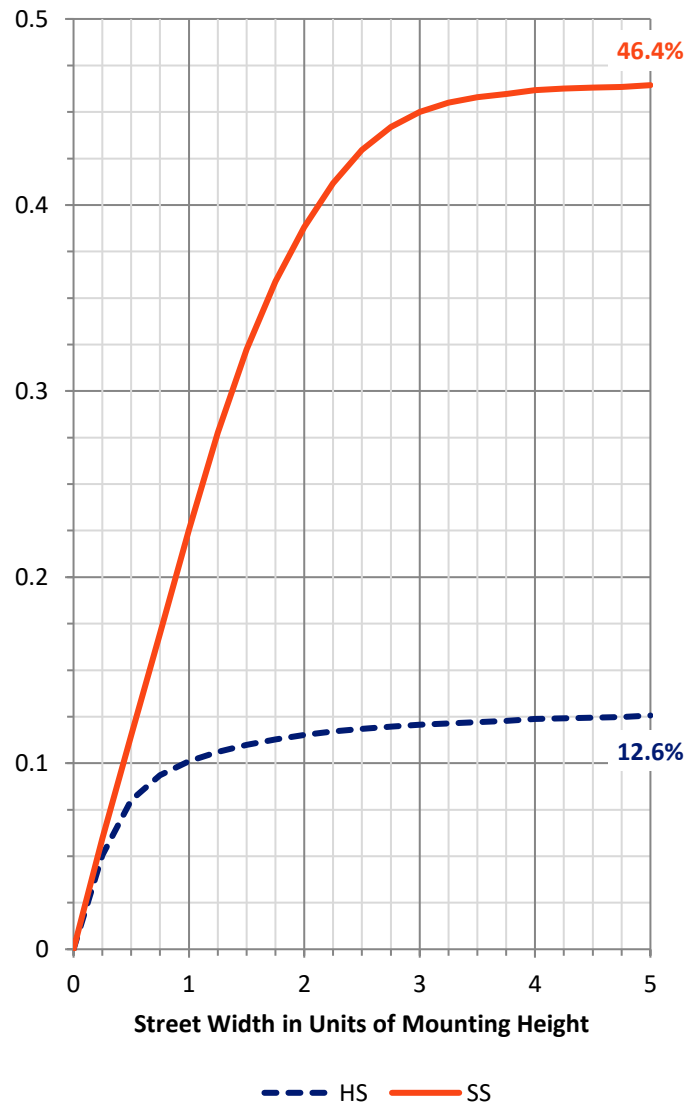
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	557.2	868.7	1425.9
	% Fixture	13.0	20.2	33.2
Street Side	Lumens	2005.3	868.0	2873.2
	% Fixture	46.6	20.2	66.8
Total	Lumens	2562.4	1736.7	4299.1
	% Fixture	59.6	40.4	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.2	0.7
10°-20°	91.1	2.1
20°-30°	140.4	3.3
30°-40°	210.5	4.9
40°-50°	350.5	8.2
50°-60°	547.7	12.7
60°-70°	723.5	16.8
70°-80°	418.5	9.7
80°-90°	49.0	1.1
90°-100°	10.8	0.3
100°-110°	57.4	1.3
110°-120°	166.1	3.9
120°-130°	273.2	6.4
130°-140°	336.8	7.8
140°-150°	344.6	8.0
150°-160°	290.3	6.8
160°-170°	191.2	4.4
170°-180°	66.3	1.5
0°-90°	2562.4	59.6
0°-180°	4299.1	100.0



REPORT NUMBER: P226631

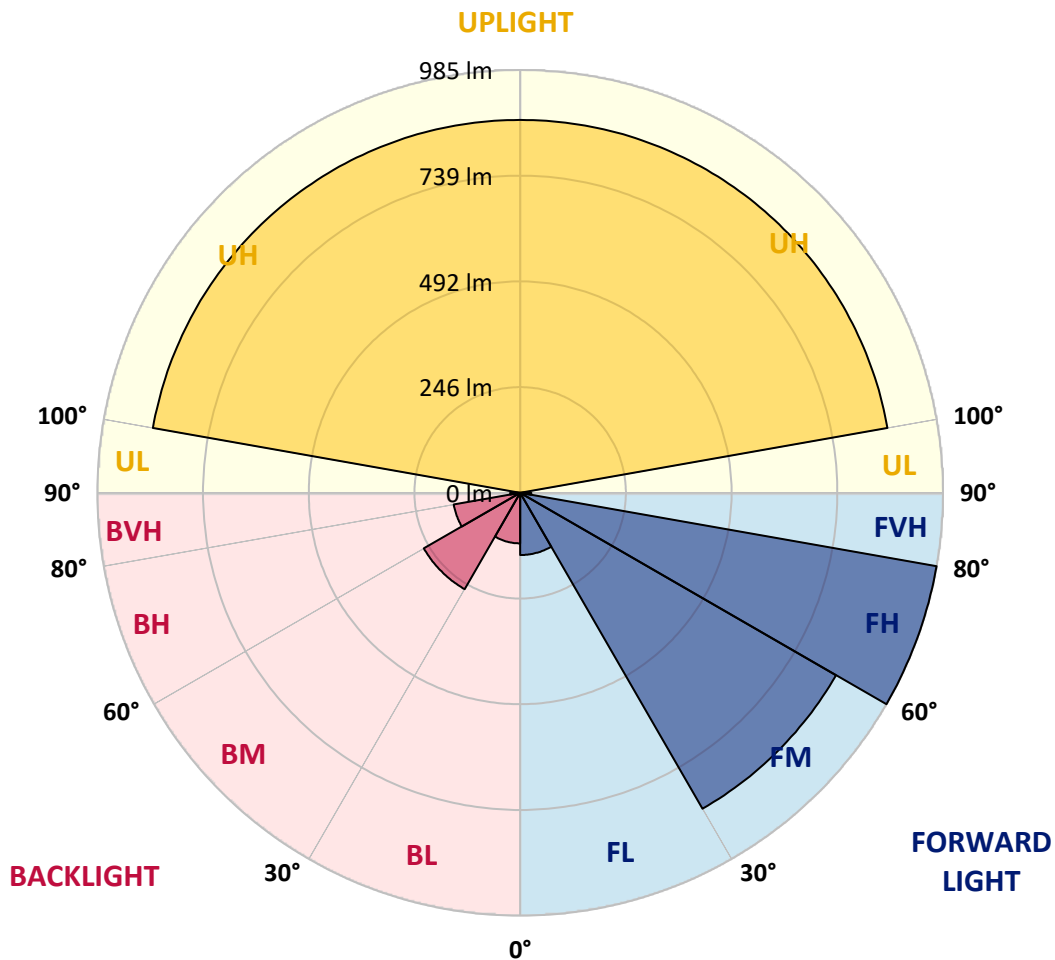
CATALOG NUMBER: ISW-AF-450-LED-E1-T4W-8030-ULG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	144.9	3.4			
FM (30°-60°)	849.7	19.8			
FH (60°-80°)	985.0	22.9			G1/1800
FVH (80°-90°)	25.7	0.6			G1/100
BL (0°-30°)	117.8	2.7	B1/500		
BM (30°-60°)	259.0	6.0	B1/1000		
BH (60°-80°)	157.1	3.7	B1/500		G1/500
BVH (80°-90°)	23.3	0.5			G1/100
UL (90°-100°)	10.8	0.3		U2/50	
UH (100°-180°)	868.7	20.2		U4/1000	

BUG Rating: B1-U5-G1

Type IV Medium





REPORT NUMBER: P226631

CATALOG NUMBER: ISW-AF-450-LED-E1-T4W-8030-ULG

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	48°	55°	65°	75°	85°
0°	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7
2.5°	347.2	346.8	346.8	343.8	342.7	340.9	339.4	337.2	334.9	332.3	329.0
5°	363.9	365.0	363.5	359.1	353.5	347.6	345.3	340.1	333.1	326.7	320.8
7.5°	379.9	380.3	376.2	368.7	360.2	350.9	347.9	340.9	333.1	324.5	316.0
10°	391.4	391.8	385.8	375.4	363.9	353.5	350.2	343.1	333.4	324.1	313.4
12.5°	398.1	398.5	389.6	378.8	365.0	354.6	351.6	344.2	334.2	322.3	310.4
15°	397.0	398.1	390.7	378.8	364.3	355.0	351.3	345.0	332.3	320.4	307.8
17.5°	389.6	391.0	385.1	372.1	360.6	353.1	349.0	342.7	330.5	317.8	304.1
20°	375.1	376.9	374.3	361.7	353.9	347.9	345.3	339.4	327.9	314.8	300.7
22.5°	358.7	360.6	359.8	349.4	345.7	342.7	340.1	335.7	325.6	312.6	299.2
25°	346.8	348.3	347.2	338.3	339.4	339.4	337.9	334.5	325.3	313.4	299.2
27.5°	366.5	366.5	356.9	338.6	336.8	340.1	339.4	337.5	330.1	317.1	302.2
30°	438.6	433.1	415.6	369.9	346.4	345.0	344.6	343.5	336.8	325.3	311.5
32.5°	519.3	513.7	492.9	435.7	387.0	355.0	351.6	352.0	350.2	339.4	325.6
35°	591.0	590.3	573.9	511.9	449.8	390.3	376.9	368.0	367.3	362.8	352.0
37.5°	649.0	649.0	650.5	579.9	517.8	446.4	423.8	395.5	395.5	392.9	386.2
40°	715.2	718.2	721.5	641.6	590.7	513.3	487.7	444.9	431.9	436.0	437.5
42.5°	802.2	805.9	803.7	717.8	657.2	593.3	561.7	510.0	478.0	484.7	500.3
45°	860.9	862.4	878.4	797.3	740.8	660.9	634.2	563.2	531.6	545.3	572.8
47.5°	927.4	931.2	933.8	887.7	839.0	737.5	688.4	614.8	594.4	615.2	658.7
50°	992.5	987.7	994.7	992.9	931.9	805.5	747.2	663.1	664.6	692.9	764.3
52.5°	1049.0	1032.6	1049.0	1069.4	1051.6	875.4	807.4	720.0	741.6	776.2	888.8
55°	1092.5	1053.1	1080.6	1138.6	1134.5	937.1	876.1	795.9	831.9	879.1	1040.1
57.5°	1003.6	1008.5	1084.3	1185.0	1183.2	999.6	936.4	890.6	934.9	987.7	1219.2
60°	920.8	942.3	1059.4	1192.5	1217.0	1067.6	1017.4	998.4	1039.3	1103.6	1391.0
62.5°	876.9	897.3	1018.9	1178.7	1270.9	1168.3	1126.3	1111.8	1167.6	1239.7	1544.1
65°	890.6	903.3	1016.3	1199.5	1333.0	1320.7	1302.5	1278.3	1306.2	1373.9	1613.3
67.5°	852.0	872.8	994.7	1236.3	1446.4	1506.6	1521.8	1495.8	1472.4	1463.1	1512.5
70°	634.2	654.2	782.1	1084.3	1539.3	1829.2	1819.9	1733.0	1575.4	1443.8	1181.7
72°	402.9	397.4	495.1	794.4	1368.3	1912.1	1956.0	1795.0	1528.5	1282.1	802.5
72.5°	292.9	319.3	410.8	706.3	1299.9	1866.8	1930.7	1775.0	1467.2	1211.1	705.9
75°	71.4	75.5	98.5	253.1	761.3	1404.7	1485.0	1371.3	1070.9	718.9	313.0
77.5°	48.3	50.2	65.1	89.2	223.8	801.1	881.3	757.2	479.1	244.6	139.4
80°	36.1	37.2	47.2	63.2	92.9	273.2	322.3	256.1	119.3	135.7	99.2
82.5°	25.3	26.0	35.7	46.5	61.7	63.9	85.1	94.0	77.3	88.8	58.0
85°	17.5	17.5	26.0	32.0	39.0	31.6	33.8	47.2	52.4	52.8	35.3
87.5°	9.3	10.4	15.2	20.4	20.4	14.5	16.0	24.2	29.4	31.6	21.2
90°	8.3	8.3	13.3	15.8	12.8	10.7	10.3	11.8	16.1	19.0	13.7
92.5°	4.0	4.0	5.0	6.0	6.0	6.0	6.3	7.0	7.0	6.0	6.0
95°	5.0	5.0	6.0	7.0	7.0	7.0	7.0	7.0	8.0	7.0	7.0
97.5°	7.0	7.0	8.0	8.0	9.0	9.0	9.9	12.0	10.0	9.0	8.0
100°	8.0	8.0	9.0	10.0	12.0	21.0	23.4	29.0	26.0	23.0	19.0
102.5°	11.0	11.0	13.0	18.0	27.0	40.0	43.0	50.0	47.0	42.0	39.0
105°	21.0	22.0	27.0	36.0	48.0	63.0	65.7	72.0	70.0	65.0	61.0
107.5°	41.0	42.0	49.0	58.0	73.0	88.0	90.1	95.0	94.0	90.0	87.0



REPORT NUMBER: P226631

CATALOG NUMBER: ISW-AF-450-LED-E1-T4W-8030-ULG

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	48°	55°	65°	75°	85°
110°	66.0	68.0	74.0	87.0	102.0	114.0	115.8	120.0	121.0	119.0	116.0
112.5°	99.0	99.0	106.0	121.0	134.0	143.0	144.5	148.0	150.0	149.0	147.0
115°	140.0	139.0	147.0	159.0	168.0	174.0	175.5	179.0	182.0	179.0	177.0
117.5°	184.0	184.0	189.0	197.0	202.0	205.0	206.8	211.0	215.0	210.0	208.0
120°	225.0	223.0	226.0	233.0	237.0	243.0	243.9	246.0	250.0	245.0	243.0
122.5°	263.0	260.0	261.0	267.0	271.0	277.0	277.6	279.0	283.0	278.0	276.0
125°	298.0	294.0	296.0	299.0	305.0	310.0	310.9	313.0	315.0	310.0	310.0
127.5°	330.0	329.0	329.0	333.0	339.0	340.0	341.5	345.0	346.0	346.0	345.0
130°	363.0	361.0	362.0	366.0	370.0	372.0	373.5	377.0	381.0	381.0	379.0
132.5°	396.0	394.0	393.0	401.0	404.0	405.0	406.8	411.0	416.0	414.0	414.0
135°	429.0	426.0	426.0	432.0	435.0	437.0	438.8	443.0	448.0	447.0	450.0
137.5°	460.0	457.0	459.0	460.0	464.0	468.0	469.5	473.0	475.0	476.0	481.0
140°	488.0	485.0	487.0	489.0	491.0	497.0	497.9	500.0	502.0	504.0	509.0
142.5°	518.0	515.0	517.0	518.0	521.0	525.0	525.6	527.0	533.0	533.0	534.0
145°	550.0	546.0	544.0	547.0	550.0	551.0	552.5	556.0	562.0	561.0	558.0
147.5°	575.0	572.0	571.0	574.0	574.0	575.0	576.5	580.0	585.0	586.0	583.0
150°	595.0	592.0	593.0	593.0	593.0	593.0	594.2	597.0	600.0	603.0	606.0
152.5°	611.0	608.0	608.0	609.0	610.0	610.0	610.3	611.0	614.0	618.0	623.0
155°	629.0	625.0	625.0	627.0	630.0	628.0	627.4	626.0	631.0	636.0	638.0
157.5°	646.0	643.0	643.0	644.0	646.0	645.0	644.7	644.0	648.0	650.0	650.0
160°	663.0	660.0	659.0	656.0	655.0	655.0	655.9	658.0	664.0	661.0	660.0
162.5°	673.0	669.0	669.0	665.0	661.0	663.0	664.2	667.0	671.0	670.0	668.0
165°	681.0	678.0	676.0	676.0	673.0	673.0	672.7	672.0	677.0	680.0	678.0
167.5°	690.0	687.0	684.0	686.0	688.0	685.0	682.9	678.0	684.0	688.0	688.0
170°	698.0	695.0	692.0	692.0	693.0	691.0	689.5	686.0	689.0	694.0	696.0
172.5°	699.0	697.0	695.0	693.0	690.0	690.0	689.7	689.0	692.0	694.0	696.0
175°	700.0	698.0	697.0	695.0	691.0	690.0	690.0	690.0	695.0	696.0	694.0
177.5°	707.0	705.0	700.0	699.0	697.0	695.0	694.7	694.0	699.0	701.0	698.0
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0



REPORT NUMBER: P226631

CATALOG NUMBER: ISW-AF-450-LED-E1-T4W-8030-ULG

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7	329.7
2.5°	328.2	326.0	323.0	321.5	320.8	319.3	317.8	317.1	317.1	315.6	316.0
5°	317.8	314.5	310.4	307.4	307.0	307.0	307.8	307.8	308.2	307.0	308.5
7.5°	312.6	308.9	303.0	299.6	297.0	296.6	298.1	301.1	302.6	301.5	303.0
10°	308.9	304.8	298.1	294.0	292.2	291.4	292.5	295.5	300.4	300.4	301.8
12.5°	305.2	300.0	293.3	290.3	288.8	289.2	290.7	292.9	298.1	300.0	300.7
15°	301.5	295.5	289.9	285.9	285.9	287.0	288.8	291.4	296.3	299.6	300.4
17.5°	297.7	291.8	287.0	283.6	283.6	285.1	287.0	290.3	293.7	298.5	298.5
20°	294.4	289.6	283.3	280.3	279.9	281.0	283.3	286.6	289.2	294.0	294.4
22.5°	292.5	286.6	280.6	276.2	274.3	273.6	275.8	279.2	281.8	286.6	287.3
25°	291.8	285.1	277.7	269.5	264.7	263.2	264.3	268.4	270.6	274.3	275.4
27.5°	294.4	288.1	276.6	261.7	251.7	247.6	248.7	251.3	252.0	256.1	258.0
30°	303.3	295.9	278.8	253.5	235.3	227.9	227.9	228.2	229.4	232.7	233.1
32.5°	317.8	310.8	285.5	245.0	218.6	208.2	205.6	203.7	203.7	203.3	203.7
35°	344.6	338.6	297.0	235.3	200.4	188.8	182.5	179.2	175.8	174.3	174.0
37.5°	383.2	378.0	313.4	224.1	184.4	172.8	165.0	158.4	154.6	154.3	156.1
40°	440.9	435.7	331.6	211.5	169.1	160.6	152.4	145.3	141.3	141.6	143.5
42.5°	511.9	495.9	351.3	194.4	156.9	152.4	143.5	137.5	133.4	131.2	130.8
45°	594.8	568.0	369.9	178.4	143.5	145.3	136.8	130.1	124.9	119.0	118.2
47.5°	698.1	640.1	386.2	162.4	129.0	137.9	129.7	123.4	115.6	108.5	107.4
50°	805.9	723.0	400.3	145.3	116.0	129.7	122.7	114.1	103.3	97.0	97.0
52.5°	930.4	822.6	418.6	126.4	105.9	120.8	113.7	102.6	93.7	92.9	92.9
55°	1069.1	927.1	431.2	111.5	98.1	111.1	107.8	104.5	101.5	102.2	102.6
57.5°	1214.0	1036.0	420.0	101.1	91.8	108.9	118.6	114.1	104.8	104.5	104.1
60°	1338.9	1120.7	358.3	94.4	87.0	112.6	127.1	114.1	104.8	109.7	110.0
62.5°	1420.7	1160.9	238.6	85.9	79.9	106.3	124.2	110.8	105.2	119.0	120.1
65°	1409.6	1115.9	137.2	79.9	75.5	97.8	120.1	106.7	98.1	105.9	103.7
67.5°	1243.4	935.2	99.2	77.3	72.1	91.8	112.6	100.7	91.4	101.1	97.0
70°	893.6	636.8	85.5	75.1	69.9	84.8	107.4	97.0	87.7	94.4	88.1
72°	599.6	387.3	78.4	73.2	67.7	80.3	103.7	94.0	84.4	88.1	81.0
72.5°	510.4	305.6	76.6	72.5	66.9	79.2	102.6	93.3	83.6	87.4	80.7
75°	190.7	119.7	68.0	66.9	61.7	73.6	98.1	90.0	79.9	78.8	75.8
77.5°	98.1	75.8	58.0	59.1	55.4	67.3	93.3	84.8	73.6	69.5	68.0
80°	71.4	55.0	46.8	50.2	47.2	60.6	86.6	76.9	66.9	62.4	60.6
82.5°	45.0	34.2	35.7	39.8	40.1	53.5	78.8	69.1	59.5	55.8	52.8
85°	21.6	20.4	25.3	29.4	32.3	45.3	72.1	61.3	52.0	44.6	45.0
87.5°	11.5	15.6	15.2	19.7	24.9	37.2	63.9	50.2	41.6	33.5	33.8
90°	9.6	11.1	13.5	16.8	17.0	23.0	49.3	36.6	34.9	16.9	15.4
92.5°	6.0	6.0	6.0	7.0	7.0	6.0	6.0	6.0	5.0	4.0	4.0
95°	7.0	7.0	7.0	8.0	7.0	7.0	7.0	7.0	6.0	5.0	5.0
97.5°	8.0	8.0	9.0	10.0	12.0	9.0	9.0	8.0	8.0	7.0	7.0
100°	19.0	19.0	23.0	26.0	29.0	21.0	12.0	10.0	9.0	8.0	8.0
102.5°	38.0	39.0	42.0	47.0	50.0	40.0	27.0	18.0	13.0	11.0	11.0
105°	61.0	61.0	65.0	70.0	72.0	63.0	48.0	36.0	27.0	22.0	21.0
107.5°	86.0	87.0	90.0	94.0	95.0	88.0	73.0	58.0	49.0	42.0	41.0



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CATALOG NUMBER: ISW-AF-450-LED-E1-T4W-8030-ULG

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	117.0	116.0	119.0	121.0	120.0	114.0	102.0	87.0	74.0	68.0	66.0
112.5°	147.0	147.0	149.0	150.0	148.0	143.0	134.0	121.0	106.0	99.0	99.0
115°	178.0	177.0	179.0	182.0	179.0	174.0	168.0	159.0	147.0	139.0	140.0
117.5°	209.0	208.0	210.0	215.0	211.0	205.0	202.0	197.0	189.0	184.0	184.0
120°	243.0	243.0	245.0	250.0	246.0	243.0	237.0	233.0	226.0	223.0	225.0
122.5°	277.0	276.0	278.0	283.0	279.0	277.0	271.0	267.0	261.0	260.0	263.0
125°	310.0	310.0	310.0	315.0	313.0	310.0	305.0	299.0	296.0	294.0	298.0
127.5°	347.0	345.0	346.0	346.0	345.0	340.0	339.0	333.0	329.0	329.0	330.0
130°	380.0	379.0	381.0	381.0	377.0	372.0	370.0	366.0	362.0	361.0	363.0
132.5°	415.0	414.0	414.0	416.0	411.0	405.0	404.0	401.0	393.0	394.0	396.0
135°	451.0	450.0	447.0	448.0	443.0	437.0	435.0	432.0	426.0	426.0	429.0
137.5°	482.0	481.0	476.0	475.0	473.0	468.0	464.0	460.0	459.0	457.0	460.0
140°	511.0	509.0	504.0	502.0	500.0	497.0	491.0	489.0	487.0	485.0	488.0
142.5°	536.0	534.0	533.0	533.0	527.0	525.0	521.0	518.0	517.0	515.0	518.0
145°	560.0	558.0	561.0	562.0	556.0	551.0	550.0	547.0	544.0	546.0	550.0
147.5°	585.0	583.0	586.0	585.0	580.0	575.0	574.0	574.0	571.0	572.0	575.0
150°	610.0	606.0	603.0	600.0	597.0	593.0	593.0	593.0	593.0	592.0	595.0
152.5°	628.0	623.0	618.0	614.0	611.0	610.0	610.0	609.0	608.0	608.0	611.0
155°	641.0	638.0	636.0	631.0	626.0	628.0	630.0	627.0	625.0	625.0	629.0
157.5°	655.0	650.0	650.0	648.0	644.0	645.0	646.0	644.0	643.0	643.0	646.0
160°	666.0	660.0	661.0	664.0	658.0	655.0	655.0	656.0	659.0	660.0	663.0
162.5°	674.0	668.0	670.0	671.0	667.0	663.0	661.0	665.0	669.0	669.0	673.0
165°	682.0	678.0	680.0	677.0	672.0	673.0	673.0	676.0	676.0	678.0	681.0
167.5°	694.0	688.0	688.0	684.0	678.0	685.0	688.0	686.0	684.0	687.0	690.0
170°	701.0	696.0	694.0	689.0	686.0	691.0	693.0	692.0	692.0	695.0	698.0
172.5°	701.0	696.0	694.0	692.0	689.0	690.0	690.0	693.0	695.0	697.0	699.0
175°	699.0	694.0	696.0	695.0	690.0	690.0	691.0	695.0	697.0	698.0	700.0
177.5°	702.0	698.0	701.0	699.0	694.0	695.0	697.0	699.0	700.0	705.0	707.0
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0

(END OF REPORT)