

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: P226371

Luminaire Tested: **ISW-AF-450-LED-E1-T3-8030-ULG**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P226371  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35938)-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-T3-8030-ULG  
Description: IMPACT ELITE LED WEDGE LUMINAIRE WITH UPLIGHT  
LIGHT SQUARE WITH ACCULED OPTICS-TYPE III, 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: 4302.2 lumens  
Efficiency: N/A  
Efficacy: 102.4 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')  
IES Classification: Type III - Short - 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

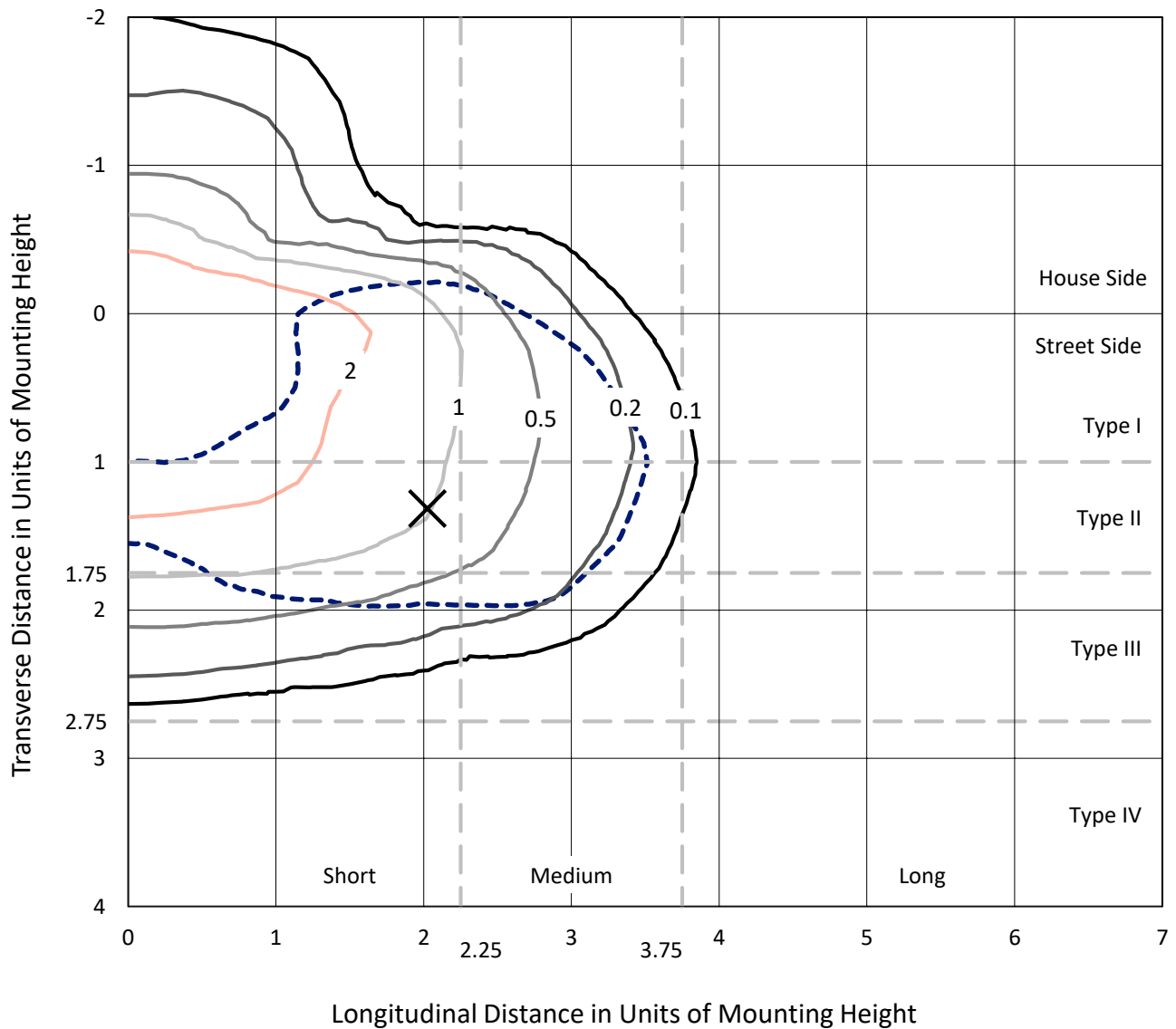


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

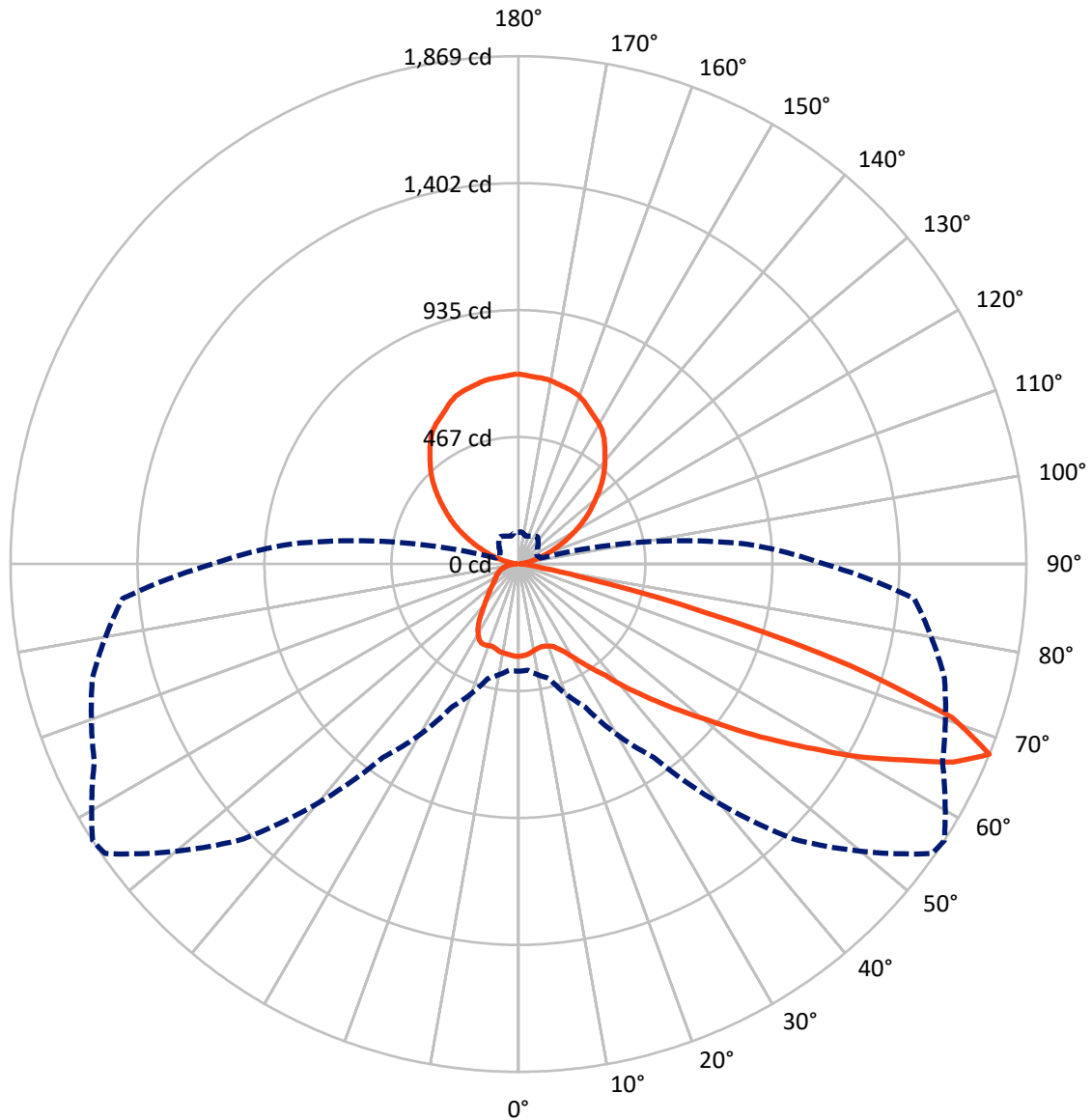


Based on 10 foot mounting height. Maximum calculated value = 3.6 fc  
 Type III - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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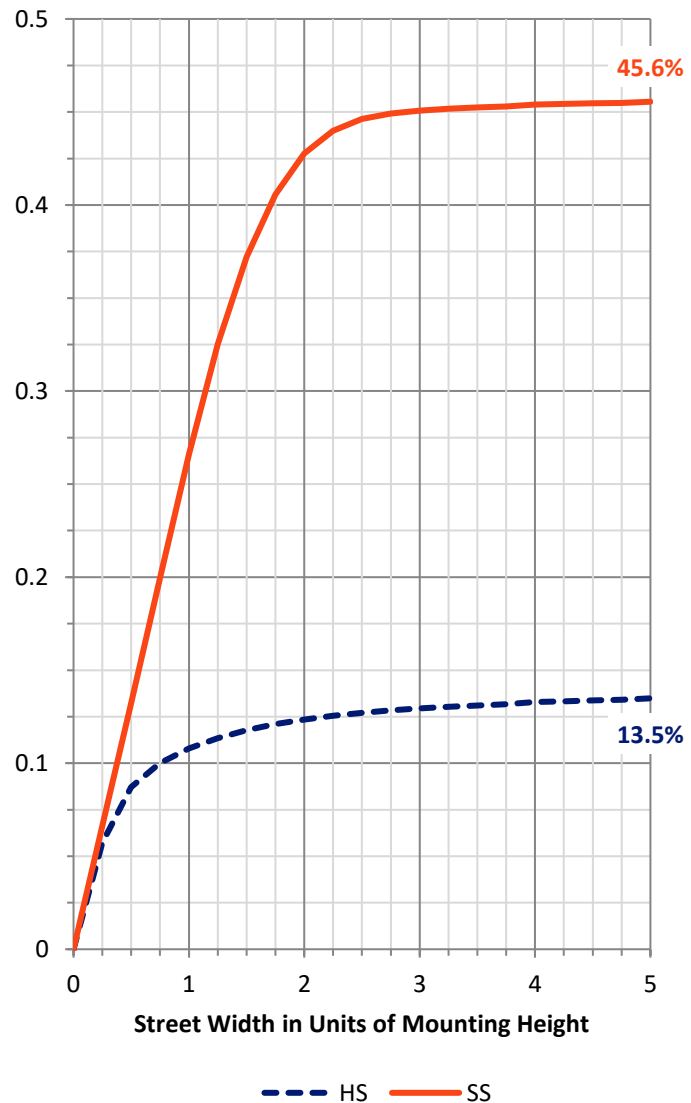
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	597.7	868.3	1466.0
	% Fixture	13.9	20.2	34.1
<b>Street Side</b>	Lumens	1968.5	867.8	2836.3
	% Fixture	45.8	20.2	65.9
<b>Total</b>	Lumens	2566.2	1736.1	4302.2
	% Fixture	59.6	40.4	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.8	0.7
10°-20°	91.4	2.1
20°-30°	157.3	3.7
30°-40°	255.8	5.9
40°-50°	412.6	9.6
50°-60°	615.1	14.3
60°-70°	692.7	16.1
70°-80°	267.1	6.2
80°-90°	42.4	1.0
90°-100°	10.2	0.2
100°-110°	57.4	1.3
110°-120°	166.1	3.9
120°-130°	273.2	6.3
130°-140°	336.8	7.8
140°-150°	344.6	8.0
150°-160°	290.3	6.7
160°-170°	191.2	4.4
170°-180°	66.3	1.5
0°-90°	2566.2	59.6
0°-180°	4302.2	100.0



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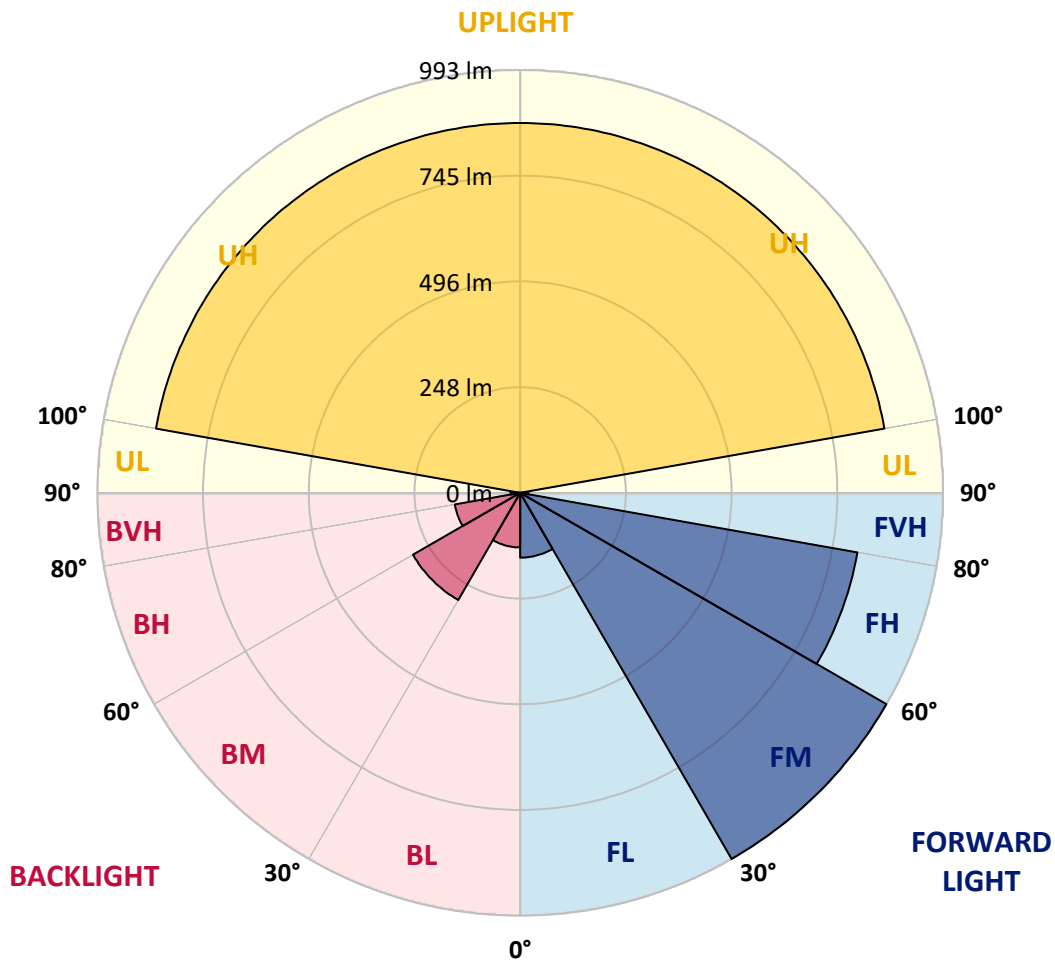
CATALOG NUMBER: ISW-AF-450-LED-E1-T3-8030-ULG

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	152.2	3.5			
FM (30°-60°)	992.8	23.1			
FH (60°-80°)	804.0	18.7			G1/1800
FVH (80°-90°)	19.5	0.5			G1/100
BL (0°-30°)	128.3	3.0	B1/500		
BM (30°-60°)	290.6	6.8	B1/1000		
BH (60°-80°)	155.8	3.6	B1/500		G1/500
BVH (80°-90°)	22.9	0.5			G1/100
UL (90°-100°)	10.2	0.2		U2/50	
UH (100°-180°)	868.3	20.2		U4/1000	

**BUG Rating: B1-U5-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	340.1	340.1	340.1	340.1	340.1	340.1	340.1	340.1	340.1	340.1	340.1
2.5°	337.5	338.2	338.9	338.6	338.6	338.6	338.6	337.8	338.9	338.9	338.2
5°	331.9	332.3	332.6	333.4	334.1	334.9	335.2	335.2	335.6	335.2	334.5
7.5°	323.7	324.1	325.6	325.6	326.3	327.8	328.5	329.3	330.4	330.4	330.0
10°	321.1	321.1	321.1	320.0	320.7	321.1	322.2	322.2	325.2	326.7	327.4
12.5°	324.1	323.7	323.7	320.7	318.1	317.0	318.1	318.5	321.8	324.1	325.6
15°	330.8	330.8	330.0	325.6	320.4	316.3	315.9	315.9	318.5	321.8	324.4
17.5°	346.4	347.9	342.7	335.6	327.0	320.4	317.8	317.4	319.2	321.8	324.4
20°	376.1	375.7	367.9	355.3	340.4	329.3	323.0	322.2	321.8	323.3	326.3
22.5°	411.4	409.9	400.6	384.7	364.2	343.8	331.5	330.0	327.0	328.2	332.3
25°	449.3	449.7	438.2	417.4	391.7	367.2	348.6	347.1	340.8	340.1	344.5
27.5°	487.2	492.1	476.5	456.8	426.3	396.9	369.8	367.6	362.0	360.1	364.6
30°	542.6	540.7	521.4	495.8	465.3	428.5	402.5	398.4	387.3	389.9	394.7
32.5°	589.4	593.5	576.1	545.6	505.4	466.8	436.7	434.5	423.7	426.6	433.3
35°	646.7	656.3	633.3	595.7	557.1	517.3	481.3	475.3	466.8	472.7	477.9
37.5°	712.1	716.9	699.1	650.8	611.4	569.7	528.9	519.6	510.3	522.5	531.8
40°	774.5	782.3	759.3	718.4	672.7	632.9	588.3	586.5	564.9	578.3	602.4
42.5°	867.1	876.7	839.9	792.3	751.1	703.2	660.8	650.8	627.3	646.3	686.8
45°	931.7	931.3	906.4	867.1	841.8	795.3	738.1	726.2	700.9	726.2	780.5
47.5°	955.1	960.7	952.2	947.3	938.4	904.6	820.2	809.1	785.3	822.8	873.0
50°	989.7	988.2	988.2	1017.9	1043.6	1036.5	916.5	900.5	875.6	920.6	992.7
52.5°	998.6	985.2	1006.0	1062.9	1144.3	1150.2	1028.3	1019.4	989.7	1033.5	1122.4
55°	973.7	970.4	1003.4	1085.9	1214.2	1256.5	1158.0	1145.8	1112.3	1149.9	1262.5
57.5°	918.0	926.5	979.7	1081.1	1262.5	1350.2	1300.4	1282.9	1235.0	1257.7	1401.5
60°	859.6	863.7	933.9	1064.0	1275.5	1415.2	1449.8	1439.8	1357.6	1371.0	1504.4
62.5°	795.0	785.3	858.1	1049.9	1261.0	1504.8	1594.7	1586.9	1489.9	1485.8	1577.6
65°	614.3	627.7	689.8	867.8	1161.8	1574.7	1767.5	1757.5	1637.5	1580.6	1569.8
67.5°	394.7	392.1	435.9	580.1	868.2	1431.2	1857.9	1869.0	1721.8	1623.3	1462.1
70°	141.6	145.7	162.0	263.5	476.1	953.6	1637.8	1693.2	1659.8	1543.4	1190.0
72.5°	86.2	86.2	98.1	118.6	192.9	452.3	1167.3	1277.0	1354.6	1271.8	878.9
75°	67.6	67.3	71.4	81.8	104.1	148.3	620.6	705.4	868.9	878.6	500.2
77.5°	53.5	53.1	57.2	62.1	77.7	78.4	198.1	257.9	398.8	375.4	178.8
80°	43.1	42.7	45.7	47.2	56.9	54.3	79.5	92.2	139.7	122.6	77.3
82.5°	39.0	39.0	42.0	36.0	39.4	38.3	49.4	52.8	70.2	72.8	46.5
85°	25.3	26.0	39.4	34.9	25.6	23.4	31.6	33.4	43.9	47.9	22.7
87.5°	11.9	13.0	30.1	29.0	17.1	12.6	17.8	19.0	23.8	29.4	13.4
90°	7.2	7.2	10.7	12.1	10.2	9.2	10.0	10.0	11.6	12.7	10.7
92.5°	4.0	4.0	5.0	6.0	6.0	6.0	7.0	7.0	7.0	6.0	6.0
95°	5.0	5.0	6.0	7.0	7.0	7.0	7.0	7.2	8.0	7.0	7.0
97.5°	7.0	7.0	8.0	8.0	9.0	9.0	12.0	11.6	10.0	9.0	8.0
100°	8.0	8.0	9.0	10.0	12.0	21.0	29.0	28.4	26.0	23.0	19.0
102.5°	11.0	11.0	13.0	18.0	27.0	40.0	50.0	49.4	47.0	42.0	39.0
105°	21.0	22.0	27.0	36.0	48.0	63.0	72.0	71.6	70.0	65.0	61.0
107.5°	41.0	42.0	49.0	58.0	73.0	88.0	95.0	94.8	94.0	90.0	87.0
110°	66.0	68.0	74.0	87.0	102.0	114.0	120.0	120.2	121.0	119.0	116.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
112.5°	99.0	99.0	106.0	121.0	134.0	143.0	148.0	148.4	150.0	149.0	147.0
115°	140.0	139.0	147.0	159.0	168.0	174.0	179.0	179.6	182.0	179.0	177.0
117.5°	184.0	184.0	189.0	197.0	202.0	205.0	211.0	211.8	215.0	210.0	208.0
120°	225.0	223.0	226.0	233.0	237.0	243.0	246.0	246.8	250.0	245.0	243.0
122.5°	263.0	260.0	261.0	267.0	271.0	277.0	279.0	279.8	283.0	278.0	276.0
125°	298.0	294.0	296.0	299.0	305.0	310.0	313.0	313.4	315.0	310.0	310.0
127.5°	330.0	329.0	329.0	333.0	339.0	340.0	345.0	345.2	346.0	346.0	345.0
130°	363.0	361.0	362.0	366.0	370.0	372.0	377.0	377.8	381.0	381.0	379.0
132.5°	396.0	394.0	393.0	401.0	404.0	405.0	411.0	412.0	416.0	414.0	414.0
135°	429.0	426.0	426.0	432.0	435.0	437.0	443.0	444.0	448.0	447.0	450.0
137.5°	460.0	457.0	459.0	460.0	464.0	468.0	473.0	473.4	475.0	476.0	481.0
140°	488.0	485.0	487.0	489.0	491.0	497.0	500.0	500.4	502.0	504.0	509.0
142.5°	518.0	515.0	517.0	518.0	521.0	525.0	527.0	528.2	533.0	533.0	534.0
145°	550.0	546.0	544.0	547.0	550.0	551.0	556.0	557.2	562.0	561.0	558.0
147.5°	575.0	572.0	571.0	574.0	574.0	575.0	580.0	581.0	585.0	586.0	583.0
150°	595.0	592.0	593.0	593.0	593.0	593.0	597.0	597.6	600.0	603.0	606.0
152.5°	611.0	608.0	608.0	609.0	610.0	610.0	611.0	611.6	614.0	618.0	623.0
155°	629.0	625.0	625.0	627.0	630.0	628.0	626.0	627.0	631.0	636.0	638.0
157.5°	646.0	643.0	643.0	644.0	646.0	645.0	644.0	644.8	648.0	650.0	650.0
160°	663.0	660.0	659.0	656.0	655.0	655.0	658.0	659.2	664.0	661.0	660.0
162.5°	673.0	669.0	669.0	665.0	661.0	663.0	667.0	667.8	671.0	670.0	668.0
165°	681.0	678.0	676.0	676.0	673.0	673.0	672.0	673.0	677.0	680.0	678.0
167.5°	690.0	687.0	684.0	686.0	688.0	685.0	678.0	679.2	684.0	688.0	688.0
170°	698.0	695.0	692.0	692.0	693.0	691.0	686.0	686.6	689.0	694.0	696.0
172.5°	699.0	697.0	695.0	693.0	690.0	690.0	689.0	689.6	692.0	694.0	696.0
175°	700.0	698.0	697.0	695.0	691.0	690.0	690.0	691.0	695.0	696.0	694.0
177.5°	707.0	705.0	700.0	699.0	697.0	695.0	694.0	695.0	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





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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	340.1	340.1	340.1	340.1	340.1	340.1	340.1	340.1	340.1	340.1	340.1
2.5°	339.3	338.6	338.9	339.3	339.7	340.8	341.2	341.2	341.2	340.8	341.5
5°	335.2	334.5	334.5	335.6	336.7	338.2	340.4	342.3	343.0	343.4	343.4
7.5°	330.8	330.0	330.4	332.3	334.1	335.2	337.5	338.6	341.5	341.5	342.3
10°	327.8	328.5	328.9	330.8	332.3	332.3	331.9	331.1	330.4	332.3	331.5
12.5°	325.9	327.0	326.7	328.9	329.7	326.7	322.2	316.3	315.5	316.3	317.0
15°	325.2	325.2	326.3	326.3	322.6	316.6	311.1	311.4	312.2	314.4	314.4
17.5°	325.2	325.6	326.3	323.7	317.0	311.8	310.7	309.6	305.5	304.4	303.3
20°	327.8	327.0	327.8	323.0	317.0	312.9	304.4	296.2	288.4	285.1	283.6
22.5°	334.1	333.0	332.6	327.8	320.4	306.6	289.9	277.2	263.9	259.4	257.9
25°	345.3	344.9	342.3	338.9	318.1	291.4	270.2	250.1	235.6	227.8	228.2
27.5°	365.0	365.0	363.5	348.6	306.6	272.4	243.8	223.4	208.5	201.1	199.9
30°	394.7	395.4	396.2	351.2	288.4	244.5	214.8	201.1	192.1	186.6	186.2
32.5°	431.5	435.6	430.7	348.2	263.5	210.7	192.1	187.3	182.8	179.1	178.8
35°	480.2	491.3	460.8	336.3	235.6	187.7	178.4	175.0	171.7	169.1	169.5
37.5°	545.6	556.4	480.2	316.3	199.9	174.7	170.6	165.4	160.2	154.6	153.9
40°	622.9	619.5	486.9	278.4	177.6	168.4	162.8	156.1	147.2	139.0	137.5
42.5°	700.2	677.9	481.3	231.5	163.2	162.8	155.0	146.4	137.5	130.4	130.4
45°	786.8	729.2	464.2	187.7	151.6	156.8	147.2	138.3	130.1	124.9	124.5
47.5°	868.5	777.1	435.9	156.5	140.1	149.0	141.2	133.0	125.2	120.8	119.7
50°	964.4	831.7	414.4	135.3	129.0	141.2	137.9	130.4	123.0	117.8	117.1
52.5°	1061.4	884.9	398.0	120.8	118.9	135.3	136.4	131.9	124.1	114.1	113.4
55°	1162.9	951.4	365.3	109.3	110.0	130.8	138.3	134.9	129.3	113.0	112.2
57.5°	1248.0	1012.7	308.1	101.5	102.9	127.5	139.0	132.7	126.4	113.7	112.6
60°	1314.5	1054.7	226.0	95.1	96.6	123.8	135.7	124.9	116.7	113.7	111.9
62.5°	1335.0	1056.2	150.1	87.7	91.8	117.4	129.7	120.8	111.1	112.6	111.9
65°	1283.7	1000.5	107.4	80.6	87.7	110.0	127.1	116.7	108.5	114.5	113.7
67.5°	1125.7	842.9	86.2	75.1	82.1	102.2	122.3	113.0	106.3	118.6	116.3
70°	877.1	604.7	73.2	69.5	76.2	94.8	115.6	108.9	103.3	115.2	112.2
72.5°	578.3	356.0	64.7	64.3	69.1	88.5	108.1	105.2	98.5	104.4	100.0
75°	301.8	165.0	56.1	58.3	61.3	82.9	101.5	98.5	91.1	93.3	91.8
77.5°	118.6	77.3	48.7	51.3	54.6	74.7	92.9	89.9	83.6	81.8	81.4
80°	65.0	52.0	40.5	43.9	46.1	67.3	84.0	80.6	74.0	72.8	71.7
82.5°	41.3	33.8	33.4	35.7	38.7	59.8	75.4	70.2	64.7	76.2	61.7
85°	19.3	20.1	23.8	26.8	30.1	50.9	65.8	60.2	54.6	53.1	47.2
87.5°	10.8	13.4	15.6	18.2	20.8	35.7	52.0	46.8	40.9	34.9	36.0
90°	9.6	9.6	13.5	13.1	11.5	12.2	33.6	31.0	27.4	14.7	11.3
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
110°	117.0	116.0	119.0	121.0	120.0	114.0	102.0	87.0	74.0	68.0	66.0



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CATALOG NUMBER: ISW-AF-450-LED-E1-T3-8030-ULG

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
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)