

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: P227154

Luminaire Tested: **ISW-AF-450-LED-E1-SLL-7030-ULG**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227154
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35948)-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-SLL-7030-ULG
Description: IMPACT ELITE LED WEDGE LUMINAIRE WITH UPLIGHT
LIGHT SQUARE WITH ACCUED OPTICS-90° SPILL LIGHT ELIMINATOR LEFT, WITH
UPLIGHT GLOW
Light Source: (16) 3000K CCT, 70 CRI LEDs and (1) UPLIGHT LED
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4130.8 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 0.5' x H: 0.54')
IES Classification: Type IV - 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

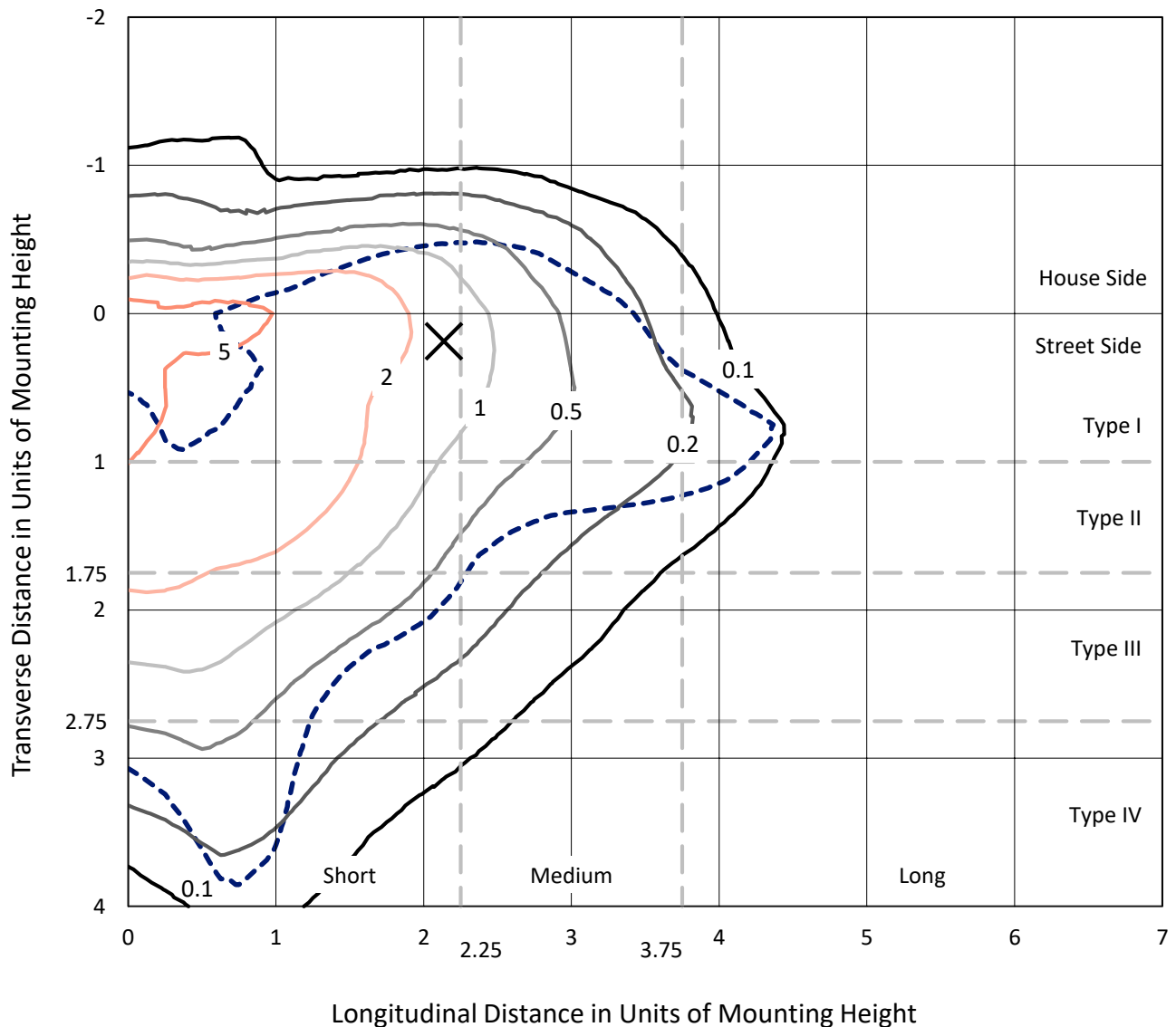


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

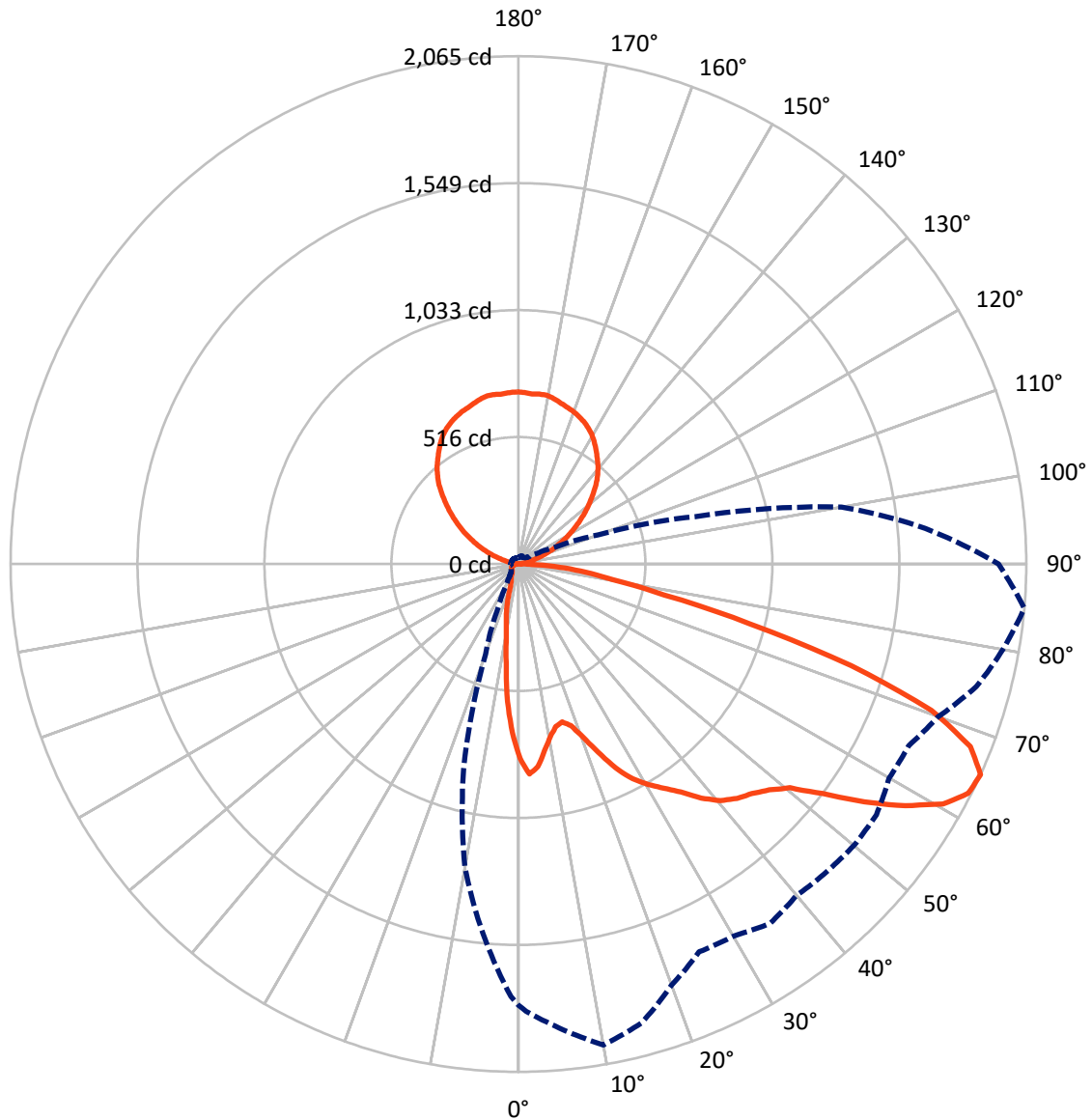


Based on 10 foot mounting height. Maximum calculated value = 8.7 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 85-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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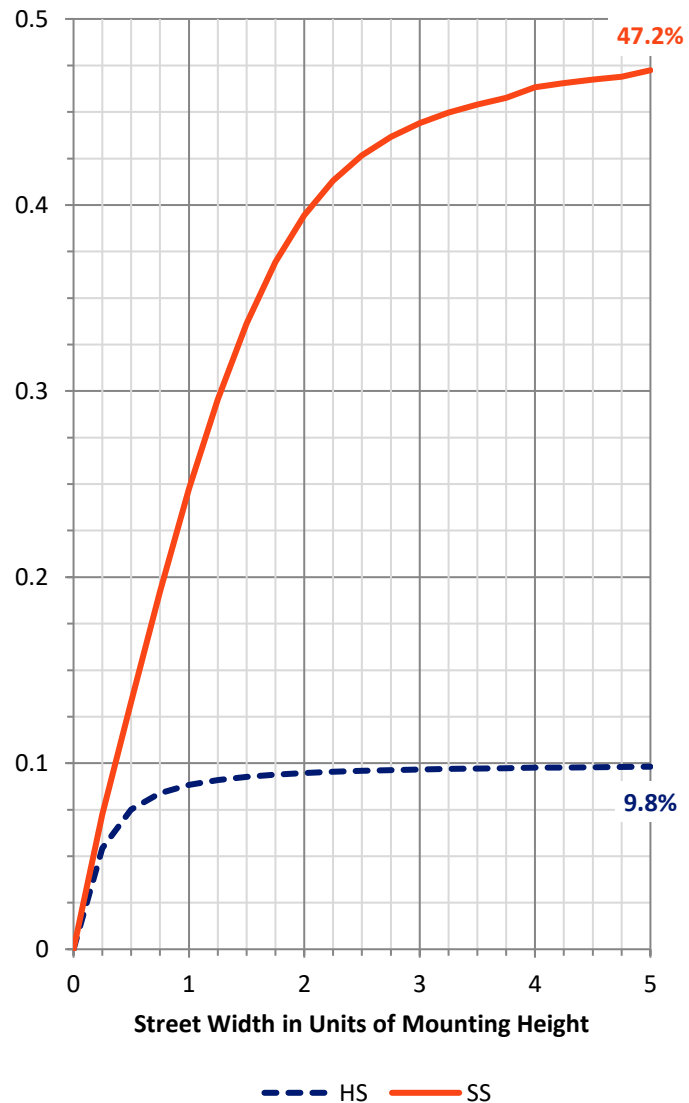
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	411.3	867.6	1278.8
	% Fixture	10.0	21.0	31.0
Street Side	Lumens	1984.3	867.7	2852.0
	% Fixture	48.0	21.0	69.0
Total	Lumens	2395.6	1735.2	4130.8
	% Fixture	58.0	42.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.6	1.4
10°-20°	112.8	2.7
20°-30°	160.8	3.9
30°-40°	233.3	5.6
40°-50°	333.7	8.1
50°-60°	512.4	12.4
60°-70°	593.1	14.4
70°-80°	302.6	7.3
80°-90°	88.3	2.1
90°-100°	9.4	0.2
100°-110°	57.4	1.4
110°-120°	166.1	4.0
120°-130°	273.2	6.6
130°-140°	336.8	8.2
140°-150°	344.6	8.3
150°-160°	290.3	7.0
160°-170°	191.2	4.6
170°-180°	66.3	1.6
0°-90°	2395.6	58.0
0°-180°	4130.8	100.0



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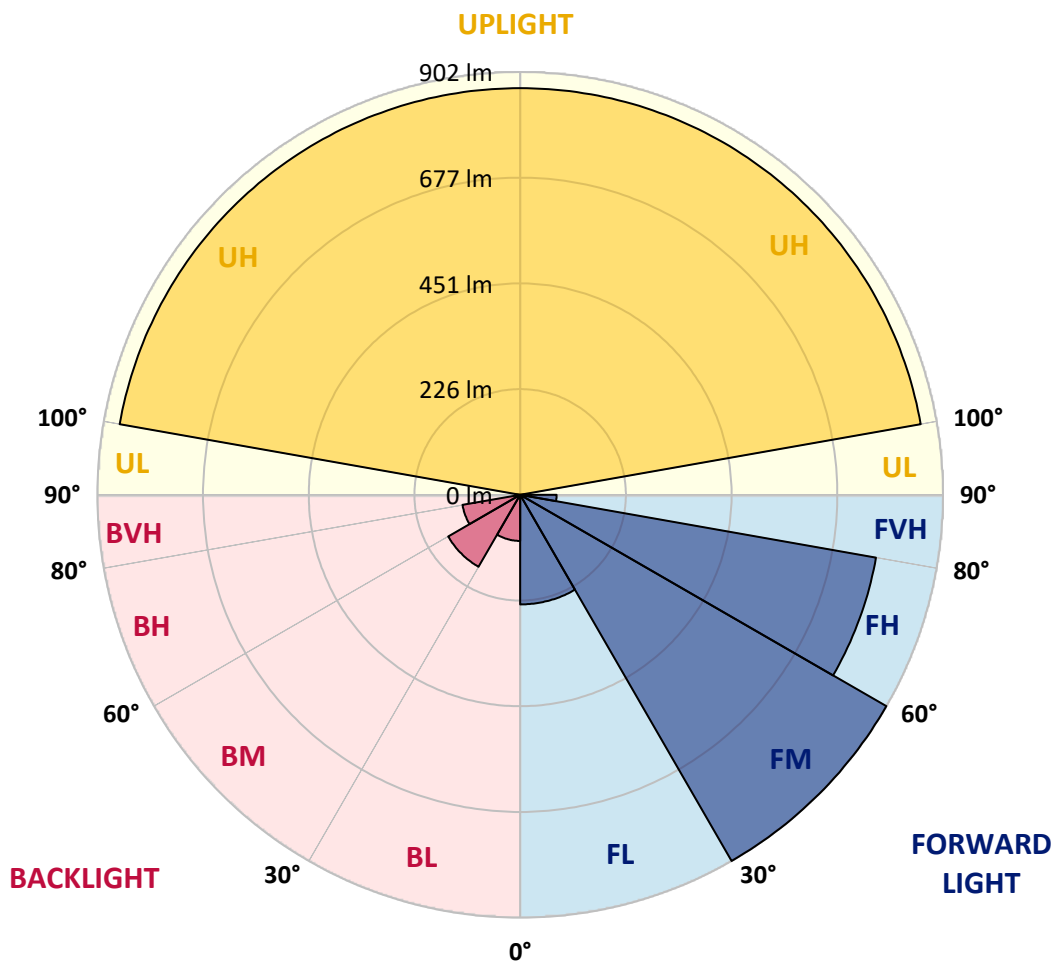
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	233.9	5.7			
FM	(30°-60°)	902.1	21.8			
FH	(60°-80°)	770.7	18.7			G1/1800
FVH	(80°-90°)	77.7	1.9			G1/100
BL	(0°-30°)	98.3	2.4	B0/110		
BM	(30°-60°)	177.4	4.3	B0/220		
BH	(60°-80°)	124.9	3.0	B1/500		G1/500
BVH	(80°-90°)	10.7	0.3			G1/100
UL	(90°-100°)	9.4	0.2		U1/10	
UH	(100°-180°)	867.6	21.0		U4/1000	

BUG Rating: B1-U5-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	10°	15°	20°	25°	30°	35°	40°	45°
0°	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1
2.5°	818.9	819.7	831.0	841.9	855.6	853.6	864.9	873.3	881.0	882.2	887.8
5°	768.9	777.0	802.4	824.2	851.6	872.9	895.9	914.0	927.3	939.8	941.4
7.5°	698.8	704.9	734.3	768.5	808.0	836.2	870.9	901.1	922.5	942.6	947.1
10°	638.8	644.4	677.1	721.4	756.0	792.7	828.6	853.2	881.0	898.3	906.8
12.5°	609.8	616.6	647.6	687.9	723.4	758.9	785.9	807.2	822.9	826.2	828.6
15°	621.0	624.7	658.9	694.8	723.0	740.7	748.0	760.9	759.7	766.1	767.3
17.5°	666.6	665.0	701.2	726.2	739.9	737.9	726.6	719.8	707.7	704.1	714.5
20°	744.8	750.4	773.8	789.1	775.0	742.3	711.3	690.0	673.0	667.4	666.2
22.5°	836.2	843.5	868.9	860.8	825.0	765.3	708.9	674.6	653.7	647.6	645.2
25°	932.2	937.0	949.9	922.5	872.1	794.7	725.8	677.9	650.1	641.2	640.0
27.5°	1009.5	1014.4	1008.3	976.9	904.0	827.8	749.2	692.4	656.1	647.2	643.2
30°	1072.8	1075.2	1055.1	1016.0	943.4	864.5	779.8	717.8	675.4	655.3	652.5
32.5°	1143.7	1142.1	1103.0	1049.0	976.9	897.5	814.9	746.4	694.0	669.4	665.0
35°	1221.5	1207.4	1138.5	1081.7	999.9	922.9	846.7	776.6	723.8	691.2	685.5
37.5°	1290.8	1276.3	1184.0	1107.5	1022.8	942.6	871.7	815.7	769.3	739.5	737.1
40°	1344.8	1327.1	1218.7	1124.8	1034.1	957.2	901.1	864.9	834.2	810.1	810.1
42.5°	1388.4	1369.0	1252.6	1145.0	1044.2	979.3	950.3	937.8	931.4	918.1	922.9
45°	1430.3	1410.5	1280.4	1157.9	1066.8	1022.4	1026.5	1037.4	1056.7	1049.0	1055.9
47.5°	1470.2	1450.8	1311.8	1178.4	1110.3	1099.8	1120.8	1164.3	1202.2	1232.0	1253.0
50°	1537.1	1514.1	1368.2	1238.9	1178.8	1184.0	1244.5	1329.9	1391.6	1419.0	1417.4
52.5°	1664.0	1631.4	1489.5	1351.7	1276.7	1305.8	1377.1	1484.7	1565.3	1586.7	1595.1
55°	1819.2	1793.4	1664.8	1501.2	1446.8	1456.9	1545.5	1667.3	1729.3	1751.5	1758.7
57.5°	1910.3	1903.4	1822.8	1661.2	1608.4	1604.4	1720.1	1819.6	1873.2	1894.2	1887.7
59°	1931.6	1933.6	1887.7	1774.5	1701.9	1693.0	1810.7	1903.0	1947.8	1954.2	1951.0
60°	1929.6	1940.9	1935.3	1836.5	1761.2	1749.9	1849.0	1936.9	1974.4	1984.4	1973.1
62.5°	1888.1	1907.5	1961.1	1950.6	1895.4	1837.7	1884.5	1948.2	1972.3	1962.7	1954.2
65°	1793.8	1819.2	1893.7	1986.4	1933.2	1822.0	1740.2	1747.5	1784.1	1759.9	1771.6
67.5°	1631.0	1660.0	1699.5	1909.9	1832.5	1645.9	1505.2	1436.3	1419.0	1442.4	1479.5
70°	1326.7	1345.7	1445.6	1743.0	1609.2	1352.9	1176.4	1084.5	1053.9	1107.9	1145.8
72.5°	935.8	964.0	1095.8	1442.4	1323.9	1083.7	890.3	805.6	775.0	777.4	810.5
75°	569.5	607.7	765.7	1140.5	1043.4	830.2	678.3	617.4	608.1	602.9	597.3
77.5°	375.6	390.1	503.4	787.1	703.7	590.4	509.0	534.0	561.8	567.8	575.1
80°	254.7	259.1	326.4	552.1	463.5	436.1	411.5	470.3	523.1	532.8	527.5
82.5°	156.8	170.1	227.7	372.4	369.6	356.7	325.2	371.2	406.2	412.3	423.2
85°	54.4	56.8	139.8	328.9	375.6	379.6	268.0	211.6	237.8	233.3	167.7
87.5°	23.4	26.2	43.5	220.0	254.3	210.4	122.5	108.8	83.8	47.2	45.5
90°	6.6	6.6	6.2	8.0	13.0	11.5	11.6	9.2	8.0	7.5	7.0
92.5°	4.0	4.0	4.0	4.5	5.0	5.5	6.0	6.0	6.0	6.0	6.0
95°	5.0	5.0	5.0	5.5	6.0	6.5	7.0	7.0	7.0	7.0	7.0
97.5°	7.0	7.0	7.0	7.5	8.0	8.0	8.0	8.5	9.0	9.0	9.0
100°	8.0	8.0	8.0	8.5	9.0	9.5	10.0	11.0	12.0	16.5	21.0
102.5°	11.0	11.0	11.0	12.0	13.0	15.5	18.0	22.5	27.0	33.5	40.0
105°	21.0	21.2	22.0	24.5	27.0	31.5	36.0	42.0	48.0	55.5	63.0
107.5°	41.0	41.2	42.0	45.5	49.0	53.5	58.0	65.5	73.0	80.5	88.0



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CATALOG NUMBER: ISW-AF-450-LED-E1-SLL-7030-ULG

CANDELA DISTRIBUTION (continued):

	0°	1°	5°	10°	15°	20°	25°	30°	35°	40°	45°
110°	66.0	66.4	68.0	71.0	74.0	80.5	87.0	94.5	102.0	108.0	114.0
112.5°	99.0	99.0	99.0	102.5	106.0	113.5	121.0	127.5	134.0	138.5	143.0
115°	140.0	139.8	139.0	143.0	147.0	153.0	159.0	163.5	168.0	171.0	174.0
117.5°	184.0	184.0	184.0	186.5	189.0	193.0	197.0	199.5	202.0	203.5	205.0
120°	225.0	224.6	223.0	224.5	226.0	229.5	233.0	235.0	237.0	240.0	243.0
122.5°	263.0	262.4	260.0	260.5	261.0	264.0	267.0	269.0	271.0	274.0	277.0
125°	298.0	297.2	294.0	295.0	296.0	297.5	299.0	302.0	305.0	307.5	310.0
127.5°	330.0	329.8	329.0	329.0	329.0	331.0	333.0	336.0	339.0	339.5	340.0
130°	363.0	362.6	361.0	361.5	362.0	364.0	366.0	368.0	370.0	371.0	372.0
132.5°	396.0	395.6	394.0	393.5	393.0	397.0	401.0	402.5	404.0	404.5	405.0
135°	429.0	428.4	426.0	426.0	426.0	429.0	432.0	433.5	435.0	436.0	437.0
137.5°	460.0	459.4	457.0	458.0	459.0	459.5	460.0	462.0	464.0	466.0	468.0
140°	488.0	487.4	485.0	486.0	487.0	488.0	489.0	490.0	491.0	494.0	497.0
142.5°	518.0	517.4	515.0	516.0	517.0	517.5	518.0	519.5	521.0	523.0	525.0
145°	550.0	549.2	546.0	545.0	544.0	545.5	547.0	548.5	550.0	550.5	551.0
147.5°	575.0	574.4	572.0	571.5	571.0	572.5	574.0	574.0	574.0	574.5	575.0
150°	595.0	594.4	592.0	592.5	593.0	593.0	593.0	593.0	593.0	593.0	593.0
152.5°	611.0	610.4	608.0	608.0	608.0	608.5	609.0	609.5	610.0	610.0	610.0
155°	629.0	628.2	625.0	625.0	625.0	626.0	627.0	628.5	630.0	629.0	628.0
157.5°	646.0	645.4	643.0	643.0	643.0	643.5	644.0	645.0	646.0	645.5	645.0
160°	663.0	662.4	660.0	659.5	659.0	657.5	656.0	655.5	655.0	655.0	655.0
162.5°	673.0	672.2	669.0	669.0	669.0	667.0	665.0	663.0	661.0	662.0	663.0
165°	681.0	680.4	678.0	677.0	676.0	676.0	676.0	674.5	673.0	673.0	673.0
167.5°	690.0	689.4	687.0	685.5	684.0	685.0	686.0	687.0	688.0	686.5	685.0
170°	698.0	697.4	695.0	693.5	692.0	692.0	692.0	692.5	693.0	692.0	691.0
172.5°	699.0	698.6	697.0	696.0	695.0	694.0	693.0	691.5	690.0	690.0	690.0
175°	700.0	699.6	698.0	697.5	697.0	696.0	695.0	693.0	691.0	690.5	690.0
177.5°	707.0	706.6	705.0	702.5	700.0	699.5	699.0	698.0	697.0	696.0	695.0
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1
2.5°	886.6	881.4	884.6	880.2	872.9	868.1	862.4	855.2	846.7	835.4	824.2
5°	937.8	933.8	923.7	909.2	889.0	872.1	852.0	828.2	808.4	783.1	759.3
7.5°	942.2	935.8	917.3	890.3	859.2	827.8	804.0	765.3	740.3	700.0	673.0
10°	901.9	902.3	883.8	858.4	826.2	789.1	754.8	712.5	675.8	634.7	589.6
12.5°	842.7	848.3	849.1	826.6	795.1	756.0	717.8	677.5	631.9	588.0	546.5
15°	775.4	791.5	792.7	787.1	770.6	737.5	702.4	666.2	619.8	571.9	525.1
17.5°	715.3	730.7	744.8	757.7	758.5	742.7	721.4	690.4	644.0	587.6	532.8
20°	669.8	686.3	710.5	734.3	760.5	768.5	770.2	750.4	700.8	631.9	557.8
22.5°	650.9	670.2	694.8	739.5	785.9	814.5	830.6	830.6	778.6	698.0	598.9
25°	646.8	662.6	700.0	755.6	817.7	867.7	898.3	918.9	881.4	783.1	649.7
27.5°	649.7	671.0	717.4	774.2	839.1	903.1	953.5	989.4	954.3	841.1	696.8
30°	660.9	692.8	740.7	799.6	866.5	934.2	995.0	1040.6	1014.8	893.9	741.5
32.5°	680.7	719.4	773.8	827.0	893.5	966.8	1026.9	1086.9	1068.0	930.6	765.3
35°	710.1	755.6	805.2	858.8	922.5	995.8	1059.9	1138.5	1131.7	976.5	789.1
37.5°	757.7	804.4	850.0	895.9	956.3	1027.7	1107.5	1207.8	1202.2	1044.6	827.4
40°	841.5	868.9	902.7	932.2	989.0	1057.1	1142.5	1265.1	1285.2	1103.0	861.2
42.5°	945.5	961.6	971.3	979.3	1008.3	1072.4	1167.9	1303.3	1336.4	1146.6	887.4
45°	1078.1	1073.2	1053.9	1035.3	1032.1	1081.3	1179.6	1331.5	1376.7	1188.9	914.0
47.5°	1234.8	1224.3	1171.6	1110.7	1076.8	1097.4	1200.2	1373.1	1426.3	1244.5	947.1
50°	1415.8	1391.2	1304.9	1202.2	1139.7	1142.9	1252.2	1430.7	1491.5	1317.0	1008.7
52.5°	1583.4	1539.5	1436.7	1300.9	1211.5	1222.3	1345.7	1550.0	1625.3	1437.1	1112.3
55°	1731.3	1674.9	1564.1	1415.4	1334.4	1353.3	1495.2	1708.0	1779.3	1580.2	1217.1
57.5°	1857.1	1797.0	1687.8	1556.8	1456.1	1471.8	1628.6	1854.7	1902.6	1708.8	1317.4
59°	1914.3	1855.1	1754.3	1633.4	1539.1	1572.1	1722.9	1927.6	1948.2	1758.3	1355.7
60°	1942.1	1882.9	1794.2	1676.1	1589.9	1633.4	1772.8	1982.8	1965.1	1765.6	1370.2
62.5°	1940.1	1898.6	1840.1	1759.5	1743.8	1816.4	1935.3	2053.7	1976.8	1744.6	1379.5
65°	1780.9	1777.3	1741.0	1750.3	1816.0	1928.0	2000.9	2065.4	1952.6	1661.2	1334.8
67.5°	1485.5	1500.4	1505.2	1562.1	1715.6	1905.8	1969.9	1982.4	1847.4	1482.7	1195.7
70°	1147.0	1113.9	1168.3	1268.7	1489.9	1735.0	1826.0	1782.5	1632.2	1241.7	976.5
72.5°	812.1	821.7	899.9	1030.1	1255.4	1509.3	1651.9	1414.6	1228.0	929.3	692.4
75°	611.0	656.5	694.4	808.4	1019.6	1292.9	1410.5	972.5	800.0	640.8	453.0
77.5°	585.6	581.9	552.9	577.1	735.1	905.6	1006.3	606.9	500.9	419.1	273.6
80°	541.2	510.2	457.4	434.0	463.1	581.5	638.8	390.1	333.3	293.0	154.4
82.5°	419.9	399.0	343.4	341.8	386.1	413.1	439.3	276.5	250.7	237.4	94.7
85°	266.4	273.6	280.5	342.2	428.4	433.2	341.8	168.5	132.2	186.2	60.5
87.5°	79.0	128.6	156.0	264.8	386.1	387.3	257.1	55.2	49.6	58.0	35.1
90°	7.0	7.0	8.0	9.0	9.0	9.0	8.4	7.0	7.0	7.0	8.0
92.5°	6.5	7.0	7.0	7.0	6.5	6.0	6.0	6.0	6.0	6.0	6.0
95°	7.0	7.0	7.5	8.0	7.5	7.0	7.0	7.0	7.0	7.0	7.0
97.5°	10.5	12.0	11.0	10.0	9.5	9.0	8.5	8.0	8.0	8.0	8.5
100°	25.0	29.0	27.5	26.0	24.5	23.0	21.0	19.0	19.0	19.0	21.0
102.5°	45.0	50.0	48.5	47.0	44.5	42.0	40.5	39.0	38.0	39.0	40.5
105°	67.5	72.0	71.0	70.0	67.5	65.0	63.0	61.0	61.0	61.0	63.0
107.5°	91.5	95.0	94.5	94.0	92.0	90.0	88.5	87.0	86.0	87.0	88.5



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CATALOG NUMBER: ISW-AF-450-LED-E1-SLL-7030-ULG

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
110°	117.0	120.0	120.5	121.0	120.0	119.0	117.5	116.0	117.0	116.0	117.5
112.5°	145.5	148.0	149.0	150.0	149.5	149.0	148.0	147.0	147.0	147.0	148.0
115°	176.5	179.0	180.5	182.0	180.5	179.0	178.0	177.0	178.0	177.0	178.0
117.5°	208.0	211.0	213.0	215.0	212.5	210.0	209.0	208.0	209.0	208.0	209.0
120°	244.5	246.0	248.0	250.0	247.5	245.0	244.0	243.0	243.0	243.0	244.0
122.5°	278.0	279.0	281.0	283.0	280.5	278.0	277.0	276.0	277.0	276.0	277.0
125°	311.5	313.0	314.0	315.0	312.5	310.0	310.0	310.0	310.0	310.0	310.0
127.5°	342.5	345.0	345.5	346.0	346.0	346.0	345.5	345.0	347.0	345.0	345.5
130°	374.5	377.0	379.0	381.0	381.0	381.0	380.0	379.0	380.0	379.0	380.0
132.5°	408.0	411.0	413.5	416.0	415.0	414.0	414.0	414.0	415.0	414.0	414.0
135°	440.0	443.0	445.5	448.0	447.5	447.0	448.5	450.0	451.0	450.0	448.5
137.5°	470.5	473.0	474.0	475.0	475.5	476.0	478.5	481.0	482.0	481.0	478.5
140°	498.5	500.0	501.0	502.0	503.0	504.0	506.5	509.0	511.0	509.0	506.5
142.5°	526.0	527.0	530.0	533.0	533.0	533.0	533.5	534.0	536.0	534.0	533.5
145°	553.5	556.0	559.0	562.0	561.5	561.0	559.5	558.0	560.0	558.0	559.5
147.5°	577.5	580.0	582.5	585.0	585.5	586.0	584.5	583.0	585.0	583.0	584.5
150°	595.0	597.0	598.5	600.0	601.5	603.0	604.5	606.0	610.0	606.0	604.5
152.5°	610.5	611.0	612.5	614.0	616.0	618.0	620.5	623.0	628.0	623.0	620.5
155°	627.0	626.0	628.5	631.0	633.5	636.0	637.0	638.0	641.0	638.0	637.0
157.5°	644.5	644.0	646.0	648.0	649.0	650.0	650.0	650.0	655.0	650.0	650.0
160°	656.5	658.0	661.0	664.0	662.5	661.0	660.5	660.0	666.0	660.0	660.5
162.5°	665.0	667.0	669.0	671.0	670.5	670.0	669.0	668.0	674.0	668.0	669.0
165°	672.5	672.0	674.5	677.0	678.5	680.0	679.0	678.0	682.0	678.0	679.0
167.5°	681.5	678.0	681.0	684.0	686.0	688.0	688.0	688.0	694.0	688.0	688.0
170°	688.5	686.0	687.5	689.0	691.5	694.0	695.0	696.0	701.0	696.0	695.0
172.5°	689.5	689.0	690.5	692.0	693.0	694.0	695.0	696.0	701.0	696.0	695.0
175°	690.0	690.0	692.5	695.0	695.5	696.0	695.0	694.0	699.0	694.0	695.0
177.5°	694.5	694.0	696.5	699.0	700.0	701.0	699.5	698.0	702.0	698.0	699.5
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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CATALOG NUMBER: ISW-AF-450-LED-E1-SLL-7030-ULG

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1
2.5°	812.5	810.9	799.6	780.6	782.2	773.4	762.1	744.0	740.3	730.3	728.6
5°	739.1	720.2	695.6	665.8	654.5	639.2	623.5	612.2	598.1	585.2	602.5
7.5°	641.2	613.4	584.8	553.3	535.2	510.2	496.9	471.1	452.2	448.6	433.6
10°	559.4	524.3	491.7	463.5	429.6	406.2	389.3	375.2	362.3	346.6	336.9
12.5°	505.0	465.5	430.8	395.8	379.6	360.3	349.8	336.5	318.0	304.7	291.8
15°	480.4	437.7	399.8	369.2	345.8	327.6	309.1	293.0	272.8	257.9	243.0
17.5°	477.2	421.5	373.6	339.3	313.9	294.2	269.6	248.3	223.7	207.1	194.7
20°	480.8	409.5	349.4	304.7	278.9	244.2	221.3	195.1	170.9	149.1	129.4
22.5°	495.3	403.0	325.6	276.5	238.2	198.7	174.1	140.7	120.1	99.1	91.5
25°	515.0	399.0	305.1	245.4	197.1	158.0	124.5	96.7	87.5	82.2	79.4
27.5°	536.0	391.7	282.1	216.8	164.0	116.5	93.1	81.4	77.8	75.0	72.9
30°	551.7	377.6	253.9	186.2	130.6	99.5	83.0	75.4	72.9	69.7	67.7
32.5°	558.6	355.9	228.5	157.2	110.0	85.4	72.5	68.1	65.7	62.9	61.7
35°	557.4	331.3	215.6	145.9	100.8	75.8	63.7	60.9	57.6	54.8	52.0
37.5°	558.6	308.7	205.5	143.1	96.7	68.5	58.0	56.0	53.6	50.8	48.4
40°	563.4	296.2	200.7	137.0	93.5	65.7	53.6	51.6	51.2	48.0	45.9
42.5°	565.4	297.4	198.3	128.6	85.4	64.9	53.6	49.2	49.2	46.7	44.3
45°	563.0	306.3	199.9	123.7	79.4	60.9	56.4	49.2	48.0	45.9	43.5
47.5°	570.3	312.7	199.9	122.9	75.4	56.8	53.6	54.0	48.8	46.3	42.7
50°	600.1	318.8	195.9	121.7	74.2	52.8	50.8	53.2	54.8	47.2	43.1
52.5°	652.9	326.4	191.4	119.7	72.5	49.6	47.2	50.0	56.0	49.6	43.1
55°	706.9	340.1	188.6	116.5	70.1	47.6	42.7	48.0	51.2	49.2	42.7
57.5°	764.5	355.1	185.8	108.8	64.5	45.5	41.1	41.9	45.9	47.6	41.5
59°	781.8	362.3	183.4	103.2	59.6	43.9	39.9	38.7	41.1	45.5	40.7
60°	794.3	362.7	180.5	98.3	56.8	43.1	39.1	37.5	38.3	46.7	41.1
62.5°	795.5	362.3	171.7	88.3	51.2	41.5	37.9	35.9	35.1	39.1	41.9
65°	745.6	345.4	155.6	83.0	51.6	39.9	35.9	34.3	32.6	33.4	36.3
67.5°	652.1	301.9	138.6	84.2	54.4	38.7	34.3	32.6	31.4	30.6	31.8
70°	493.3	250.7	133.8	87.1	56.8	37.9	31.8	30.2	29.4	29.0	29.0
72.5°	341.8	206.3	128.6	89.1	58.8	37.5	29.4	27.8	27.4	27.0	27.0
75°	220.0	149.9	106.4	75.8	53.6	34.3	26.6	25.0	24.6	24.2	24.6
77.5°	130.2	104.8	78.2	53.2	39.1	27.4	23.0	21.8	21.8	21.8	22.2
80°	72.1	62.1	52.0	34.3	27.8	20.6	18.9	17.7	17.7	18.1	18.9
82.5°	43.1	34.3	29.4	21.8	18.9	14.5	14.1	13.3	13.7	14.1	14.9
85°	28.2	21.8	17.7	14.5	12.9	9.3	8.1	8.5	8.9	9.7	10.1
87.5°	15.7	12.1	9.7	8.5	7.7	4.0	3.2	3.2	4.0	4.8	5.6
90°	9.0	9.0	9.0	8.0	7.0	7.0	7.0	7.5	8.0	8.0	8.0
92.5°	6.0	6.5	7.0	7.0	7.0	6.5	6.0	6.0	6.0	6.0	6.0
95°	7.0	7.5	8.0	7.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0
97.5°	9.0	9.5	10.0	11.0	12.0	10.5	9.0	9.0	9.0	8.5	8.0
100°	23.0	24.5	26.0	27.5	29.0	25.0	21.0	16.5	12.0	11.0	10.0
102.5°	42.0	44.5	47.0	48.5	50.0	45.0	40.0	33.5	27.0	22.5	18.0
105°	65.0	67.5	70.0	71.0	72.0	67.5	63.0	55.5	48.0	42.0	36.0
107.5°	90.0	92.0	94.0	94.5	95.0	91.5	88.0	80.5	73.0	65.5	58.0



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REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	
110°	119.0	120.0	121.0	120.5	120.0	117.0	114.0	108.0	102.0	94.5	87.0	0°
112.5°	149.0	149.5	150.0	149.0	148.0	145.5	143.0	138.5	134.0	127.5	121.0	2.5°
115°	179.0	180.5	182.0	180.5	179.0	176.5	174.0	171.0	168.0	163.5	159.0	5°
117.5°	210.0	212.5	215.0	213.0	211.0	208.0	205.0	203.5	202.0	199.5	197.0	7.5°
120°	245.0	247.5	250.0	248.0	246.0	244.5	243.0	240.0	237.0	235.0	233.0	10°
122.5°	278.0	280.5	283.0	281.0	279.0	278.0	277.0	274.0	271.0	269.0	267.0	12.5°
125°	310.0	312.5	315.0	314.0	313.0	311.5	310.0	307.5	305.0	302.0	299.0	15°
127.5°	346.0	346.0	346.0	345.5	345.0	342.5	340.0	339.5	339.0	336.0	333.0	17.5°
130°	381.0	381.0	381.0	379.0	377.0	374.5	372.0	371.0	370.0	368.0	366.0	20°
132.5°	414.0	415.0	416.0	413.5	411.0	408.0	405.0	404.5	404.0	402.5	401.0	22.5°
135°	447.0	447.5	448.0	445.5	443.0	440.0	437.0	436.0	435.0	433.5	432.0	25°
137.5°	476.0	475.5	475.0	474.0	473.0	470.5	468.0	466.0	464.0	462.0	460.0	27.5°
140°	504.0	503.0	502.0	501.0	500.0	498.5	497.0	494.0	491.0	490.0	489.0	30°
142.5°	533.0	533.0	533.0	530.0	527.0	526.0	525.0	523.0	521.0	519.5	518.0	32.5°
145°	561.0	561.5	562.0	559.0	556.0	553.5	551.0	550.5	550.0	548.5	547.0	35°
147.5°	586.0	585.5	585.0	582.5	580.0	577.5	575.0	574.5	574.0	574.0	574.0	37.5°
150°	603.0	601.5	600.0	598.5	597.0	595.0	593.0	593.0	593.0	593.0	593.0	40°
152.5°	618.0	616.0	614.0	612.5	611.0	610.5	610.0	610.0	610.0	609.5	609.0	42.5°
155°	636.0	633.5	631.0	628.5	626.0	627.0	628.0	629.0	630.0	628.5	627.0	45°
157.5°	650.0	649.0	648.0	646.0	644.0	644.5	645.0	645.5	646.0	645.0	644.0	47.5°
160°	661.0	662.5	664.0	661.0	658.0	656.5	655.0	655.0	655.0	655.5	656.0	50°
162.5°	670.0	670.5	671.0	669.0	667.0	665.0	663.0	662.0	661.0	663.0	665.0	52.5°
165°	680.0	678.5	677.0	674.5	672.0	672.5	673.0	673.0	673.0	674.5	676.0	55°
167.5°	688.0	686.0	684.0	681.0	678.0	681.5	685.0	686.5	688.0	687.0	686.0	57.5°
170°	694.0	691.5	689.0	687.5	686.0	688.5	691.0	692.0	693.0	692.5	692.0	59°
172.5°	694.0	693.0	692.0	690.5	689.0	689.5	690.0	690.0	690.0	691.5	693.0	60°
175°	696.0	695.5	695.0	692.5	690.0	690.0	690.0	690.5	691.0	693.0	695.0	62.5°
177.5°	701.0	700.0	699.0	696.5	694.0	694.5	695.0	696.0	697.0	698.0	699.0	65°
180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°
												70°
												72.5°
												75°
												77.5°
												80°
												82.5°
												85°
												87.5°
												90°
												92.5°
												95°
												97.5°
												100°
												102.5°
												105°
												107.5°

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REPORT NUMBER: P
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DISTRIBUTION (continued):

CANDELA DISTRIBUTION

160°	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	110°	160°
791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	110°	80.5
734.3	722.6	710.1	700.8	704.9	691.6	692.8	689.1	687.5	686.7	678.3	112.5°	113.5
581.5	586.0	567.4	569.5	575.1	561.4	552.1	567.4	565.4	551.7	559.4	115°	153.0
419.1	420.3	411.9	392.9	392.9	403.0	406.6	413.9	418.7	435.7	425.2	117.5°	193.0
320.4	309.1	300.6	292.2	287.3	277.3	279.7	288.6	294.2	303.9	311.5	120°	229.5
278.5	266.0	251.1	238.2	231.3	222.1	216.0	214.0	216.0	210.0	210.4	122.5°	264.0
231.3	220.0	203.5	196.7	183.8	176.5	172.5	167.2	163.2	154.8	151.1	125°	297.5
179.3	164.4	147.5	147.5	138.2	132.2	130.6	129.4	126.9	122.5	118.1	127.5°	331.0
119.3	109.6	99.9	95.1	95.9	95.1	92.7	96.7	96.7	98.3	97.5	130°	364.0
87.1	85.4	81.8	79.0	77.4	77.0	77.4	78.6	81.0	83.0	85.0	132.5°	397.0
78.2	77.4	74.2	71.3	70.9	70.1	70.1	71.3	71.7	72.1	71.7	135°	429.0
72.5	70.9	68.1	66.1	65.3	64.9	65.3	64.1	63.3	63.7	63.3	137.5°	459.5
65.7	64.5	61.7	60.0	59.6	59.6	58.4	58.0	57.2	57.6	57.2	140°	488.0
60.5	58.8	56.0	54.0	54.0	53.6	54.0	53.6	53.2	52.8	52.8	142.5°	517.5
50.8	50.4	47.6	46.7	47.2	48.4	48.4	48.4	48.8	48.4	48.4	145°	545.5
47.2	46.7	43.9	41.9	41.5	41.5	41.5	42.3	43.5	43.9	44.7	147.5°	572.5
44.7	44.3	41.5	39.9	39.1	38.7	38.3	38.3	38.7	40.3	41.5	150°	593.0
43.1	42.3	39.5	37.5	37.1	36.7	36.3	36.3	36.3	36.7	37.9	152.5°	608.5
42.3	41.1	37.9	35.9	35.1	34.7	34.7	35.1	34.7	34.7	34.7	155°	626.0
41.1	40.3	37.1	34.7	33.9	33.9	33.4	33.4	33.4	32.6	32.6	157.5°	643.5
40.7	39.5	36.3	33.9	33.0	32.6	32.2	32.6	31.8	31.4	31.0	160°	657.5
39.9	38.3	34.7	32.6	32.2	31.4	31.0	31.0	31.0	30.2	30.2	162.5°	667.0
39.5	37.5	33.9	31.8	31.0	30.2	29.8	29.8	30.6	29.8	29.8	165°	676.0
39.1	36.3	32.6	30.2	29.8	29.0	28.6	29.0	30.2	29.4	29.0	167.5°	685.0
37.5	35.5	31.8	29.8	29.0	28.2	27.8	28.2	29.0	29.0	29.0	170°	692.0
36.7	34.7	31.0	29.0	28.6	27.8	27.4	27.4	28.6	28.6	28.2	172.5°	694.0
35.5	33.9	30.2	27.8	27.0	27.0	26.6	26.6	27.0	27.0	27.4	175°	696.0
33.9	33.0	29.4	26.6	26.2	25.8	25.8	25.8	25.8	26.6	26.6	177.5°	699.5
32.2	31.8	28.2	25.8	25.0	25.0	25.0	25.0	25.0	25.4	25.8	180°	700.0
29.8	29.8	26.6	24.2	23.8	23.4	23.4	23.4	23.4	23.8	24.2		
27.4	27.8	24.6	22.2	21.8	21.8	21.8	21.8	22.2	22.2	22.6		
25.0	25.4	22.2	19.7	19.7	19.7	19.7	19.7	19.7	19.7	20.6		
22.6	22.6	18.9	16.5	16.9	17.3	17.7	17.3	17.3	17.7	18.9		
19.3	18.9	15.7	13.7	13.7	14.5	14.9	14.5	14.9	14.9	16.5		
15.3	15.3	12.1	10.1	10.1	11.7	11.7	11.7	12.1	12.5	13.7		
11.7	11.3	8.5	6.9	6.9	8.1	8.5	8.9	9.3	9.7	10.5		
6.9	6.9	4.4	2.8	3.2	3.6	4.8	4.8	4.8	5.6	6.9		
7.5	7.4	6.0	5.0	5.0	5.0	6.0	7.0	7.5	8.0	8.0		
5.5	5.0	4.5	4.0	4.0	4.0	4.5	5.0	5.5	6.0	6.0		
6.5	6.0	5.5	5.0	5.0	5.0	5.5	6.0	6.5	7.0	7.0		
8.0	8.0	7.5	7.0	7.0	7.0	7.5	8.0	8.0	8.0	8.5		
9.5	9.0	8.5	8.0	8.0	8.0	8.5	9.0	9.5	10.0	11.0		
15.5	13.0	12.0	11.0	11.0	11.0	12.0	13.0	15.5	18.0	22.5		
31.5	27.0	24.5	22.0	21.0	22.0	24.5	27.0	31.5	36.0	42.0		
53.5	49.0	45.5	42.0	41.0	42.0	45.5	49.0	53.5	58.0	65.5		

'227154
 ISW-AF-450-LED-E1-SLL-7030-ULG

REPORT NUMBER: P227154
 CATALOG NUMBER: ISW-AF-4!

TION (continued):

CANDELA DISTRIBUTION (con

165°	170°	175°	180°	185°	190°	195°	200°	205°	210°		215°	220°
74.0	71.0	68.0	66.0	68.0	71.0	74.0	80.5	87.0	94.5	0°	791.1	791.1
106.0	102.5	99.0	99.0	99.0	102.5	106.0	113.5	121.0	127.5	2.5°	685.5	685.1
147.0	143.0	139.0	140.0	139.0	143.0	147.0	153.0	159.0	163.5	5°	562.6	559.0
189.0	186.5	184.0	184.0	184.0	186.5	189.0	193.0	197.0	199.5	7.5°	436.1	449.4
226.0	224.5	223.0	225.0	223.0	224.5	226.0	229.5	233.0	235.0	10°	314.3	323.6
261.0	260.5	260.0	263.0	260.0	260.5	261.0	264.0	267.0	269.0	12.5°	218.8	223.7
296.0	295.0	294.0	298.0	294.0	295.0	296.0	297.5	299.0	302.0	15°	150.7	160.4
329.0	329.0	329.0	330.0	329.0	329.0	329.0	331.0	333.0	336.0	17.5°	117.3	118.5
362.0	361.5	361.0	363.0	361.0	361.5	362.0	364.0	366.0	368.0	20°	96.7	97.5
393.0	393.5	394.0	396.0	394.0	393.5	393.0	397.0	401.0	402.5	22.5°	85.8	87.5
426.0	426.0	426.0	429.0	426.0	426.0	426.0	429.0	432.0	433.5	25°	72.1	73.8
459.0	458.0	457.0	460.0	457.0	458.0	459.0	459.5	460.0	462.0	27.5°	63.7	65.3
487.0	486.0	485.0	488.0	485.0	486.0	487.0	488.0	489.0	490.0	30°	58.4	59.2
517.0	516.0	515.0	518.0	515.0	516.0	517.0	517.5	518.0	519.5	32.5°	53.2	53.2
544.0	545.0	546.0	550.0	546.0	545.0	544.0	545.5	547.0	548.5	35°	48.8	49.2
571.0	571.5	572.0	575.0	572.0	571.5	571.0	572.5	574.0	574.0	37.5°	45.5	46.3
593.0	592.5	592.0	595.0	592.0	592.5	593.0	593.0	593.0	593.0	40°	42.7	43.1
608.0	608.0	608.0	611.0	608.0	608.0	608.0	608.5	609.0	609.5	42.5°	38.7	39.5
625.0	625.0	625.0	629.0	625.0	625.0	625.0	626.0	627.0	628.5	45°	35.1	35.5
643.0	643.0	643.0	646.0	643.0	643.0	643.0	643.5	644.0	645.0	47.5°	32.6	32.6
659.0	659.5	660.0	663.0	660.0	659.5	659.0	657.5	656.0	655.5	50°	31.0	31.4
669.0	669.0	669.0	673.0	669.0	669.0	669.0	667.0	665.0	663.0	52.5°	30.2	30.6
676.0	677.0	678.0	681.0	678.0	677.0	676.0	676.0	676.0	674.5	55°	29.8	30.6
684.0	685.5	687.0	690.0	687.0	685.5	684.0	685.0	686.0	687.0	57.5°	29.8	30.2
692.0	693.5	695.0	698.0	695.0	693.5	692.0	692.0	692.0	692.5	59°	29.4	29.8
695.0	696.0	697.0	699.0	697.0	696.0	695.0	694.0	693.0	691.5	60°	29.4	30.2
697.0	697.5	698.0	700.0	698.0	697.5	697.0	696.0	695.0	693.0	62.5°	28.2	29.0
700.0	702.5	705.0	707.0	705.0	702.5	700.0	699.5	699.0	698.0	65°	27.4	28.2
700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°	26.2	27.4
										70°	25.0	26.2
										72.5°	23.4	25.0
										75°	21.8	23.0
										77.5°	19.7	21.0
										80°	17.3	17.7
										82.5°	14.5	14.5
										85°	10.9	9.7
										87.5°	6.0	6.4
										90°	8.0	7.5
										92.5°	6.0	6.0
										95°	7.0	7.0
										97.5°	9.0	9.0
										100°	12.0	16.5
										102.5°	27.0	33.5
										105°	48.0	55.5
										107.5°	73.0	80.5



REPORT NUMBER: P227154

CATALOG NUMBER: ISW-AF-450-LED-E1-

50-LED-E1-SLL-7030-ULG

tinued):

CANDELA DISTRIBUTION (continued):

225°	230°	235°	240°	245°	250°	255°	260°	265°		215°	220°	225°
791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	791.1	110°	102.0	108.0	114.0
676.7	676.7	688.7	690.0	675.8	679.5	686.3	678.3	687.1	112.5°	134.0	138.5	143.0
567.8	563.0	563.4	560.2	565.8	559.4	566.2	563.8	561.8	115°	168.0	171.0	174.0
440.9	449.4	443.3	431.6	440.9	433.6	419.9	421.1	405.8	117.5°	202.0	203.5	205.0
331.3	325.2	322.0	316.4	301.5	304.3	289.0	291.4	296.6	120°	237.0	240.0	243.0
228.5	224.1	229.3	225.7	219.6	220.9	224.1	227.3	235.8	122.5°	271.0	274.0	277.0
160.4	158.4	157.2	159.6	166.4	170.1	175.3	185.0	189.8	125°	305.0	307.5	310.0
120.5	120.9	119.7	123.3	129.0	131.8	133.0	133.8	139.4	127.5°	339.0	339.5	340.0
99.5	101.2	100.8	102.0	100.3	98.7	99.9	97.5	95.5	130°	370.0	371.0	372.0
87.1	87.5	85.4	85.0	82.6	80.6	79.0	79.0	78.2	132.5°	404.0	404.5	405.0
73.8	74.2	72.1	72.1	71.7	72.9	72.1	70.5	70.1	135°	435.0	436.0	437.0
66.1	65.3	64.1	64.1	63.3	63.3	63.7	64.1	63.7	137.5°	464.0	466.0	468.0
59.2	58.4	58.0	58.4	58.0	58.4	58.8	58.4	58.8	140°	491.0	494.0	497.0
54.4	53.6	53.6	54.0	53.6	54.0	54.0	54.0	53.6	142.5°	521.0	523.0	525.0
50.4	49.6	49.6	49.6	49.2	48.4	47.6	46.3	45.1	145°	550.0	550.5	551.0
47.2	46.7	45.9	45.5	44.3	41.9	41.1	41.1	41.1	147.5°	574.0	574.5	575.0
44.3	43.5	43.1	41.5	39.9	39.1	39.1	39.1	39.1	150°	593.0	593.0	593.0
40.7	39.5	38.7	38.3	37.9	37.9	37.5	37.5	37.5	152.5°	610.0	610.0	610.0
36.3	35.9	35.9	36.3	36.3	36.3	36.3	35.9	36.3	155°	630.0	629.0	628.0
33.4	33.4	33.9	34.3	34.7	35.1	35.5	35.1	35.5	157.5°	646.0	645.5	645.0
32.2	32.2	32.2	33.0	33.4	33.9	34.7	34.7	34.7	160°	655.0	655.0	655.0
31.4	31.4	31.8	32.2	32.6	33.0	33.4	33.9	34.3	162.5°	661.0	662.0	663.0
31.0	31.4	31.0	31.4	31.8	32.6	33.0	33.0	33.4	165°	673.0	673.0	673.0
31.0	31.0	31.0	31.0	31.8	32.2	31.8	32.2	32.6	167.5°	688.0	686.5	685.0
31.0	31.0	30.6	31.0	31.4	31.8	31.4	31.4	32.2	170°	693.0	692.0	691.0
30.6	31.0	30.6	30.6	31.0	31.4	31.0	31.4	31.8	172.5°	690.0	690.0	690.0
29.8	30.2	29.8	30.2	30.2	30.6	30.6	30.6	31.0	175°	691.0	690.5	690.0
29.0	29.0	29.0	29.4	29.4	29.8	29.8	30.2	29.8	177.5°	697.0	696.0	695.0
28.2	28.2	28.2	28.6	28.6	29.0	29.4	29.0	29.0	180°	700.0	700.0	700.0
27.4	27.0	26.6	27.0	27.4	27.4	27.8	27.4	27.8				
26.2	25.8	25.4	25.4	25.8	25.8	26.2	25.8	25.8				
24.2	24.2	23.4	23.4	23.4	23.4	23.8	23.4	23.0				
21.8	21.8	21.0	21.0	21.0	21.0	20.6	20.6	20.6				
18.1	18.5	18.5	18.1	18.1	17.7	17.7	17.3	16.9				
13.7	14.5	14.9	14.9	14.9	14.9	14.9	14.1	13.3				
9.7	10.9	12.1	12.1	11.7	11.7	11.7	10.5	9.3				
6.0	7.3	7.7	8.5	7.3	6.9	6.9	6.0	5.6				
7.0	7.0	7.8	8.4	10.2	10.2	10.6	8.8	7.4				
6.0	6.5	7.0	7.0	7.0	6.5	6.0	6.0	6.0				
7.0	7.0	7.0	7.5	8.0	7.5	7.0	7.0	7.0				
9.0	10.5	12.0	11.0	10.0	9.5	9.0	8.5	8.0				
21.0	25.0	29.0	27.5	26.0	24.5	23.0	21.0	19.0				
40.0	45.0	50.0	48.5	47.0	44.5	42.0	40.5	39.0				
63.0	67.5	72.0	71.0	70.0	67.5	65.0	63.0	61.0				
88.0	91.5	95.0	94.5	94.0	92.0	90.0	88.5	87.0				



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CATALOG NUMBER: ISW-AF-450-LED-E1-SLL-7030-

SLL-7030-ULG

CANDELA DISTRIBUTION (continued):

230°	235°	240°	245°	250°	255°	260°	265°		270°	275°	280°	285°
117.0	120.0	120.5	121.0	120.0	119.0	117.5	116.0	0°	791.1	791.1	791.1	791.1
145.5	148.0	149.0	150.0	149.5	149.0	148.0	147.0	2.5°	679.5	694.4	696.4	698.4
176.5	179.0	180.5	182.0	180.5	179.0	178.0	177.0	5°	558.6	573.5	565.0	568.6
208.0	211.0	213.0	215.0	212.5	210.0	209.0	208.0	7.5°	407.8	398.2	410.7	418.3
244.5	246.0	248.0	250.0	247.5	245.0	244.0	243.0	10°	297.8	309.1	313.9	322.8
278.0	279.0	281.0	283.0	280.5	278.0	277.0	276.0	12.5°	247.0	254.3	263.2	277.3
311.5	313.0	314.0	315.0	312.5	310.0	310.0	310.0	15°	200.3	205.5	216.8	230.5
342.5	345.0	345.5	346.0	346.0	346.0	345.5	345.0	17.5°	145.9	153.5	160.8	172.1
374.5	377.0	379.0	381.0	381.0	381.0	380.0	379.0	20°	97.9	101.2	110.0	115.3
408.0	411.0	413.5	416.0	415.0	414.0	414.0	414.0	22.5°	78.6	79.8	81.4	85.8
440.0	443.0	445.5	448.0	447.5	447.0	448.5	450.0	25°	70.5	71.3	72.5	74.2
470.5	473.0	474.0	475.0	475.5	476.0	478.5	481.0	27.5°	64.1	64.5	65.7	66.5
498.5	500.0	501.0	502.0	503.0	504.0	506.5	509.0	30°	58.4	58.0	58.4	59.6
526.0	527.0	530.0	533.0	533.0	533.0	533.5	534.0	32.5°	52.4	52.4	53.2	53.2
553.5	556.0	559.0	562.0	561.5	561.0	559.5	558.0	35°	45.1	44.7	45.5	46.7
577.5	580.0	582.5	585.0	585.5	586.0	584.5	583.0	37.5°	41.5	41.9	42.7	43.5
595.0	597.0	598.5	600.0	601.5	603.0	604.5	606.0	40°	39.5	39.9	40.7	41.5
610.5	611.0	612.5	614.0	616.0	618.0	620.5	623.0	42.5°	37.5	38.3	39.1	40.3
627.0	626.0	628.5	631.0	633.5	636.0	637.0	638.0	45°	36.3	37.1	38.3	39.5
644.5	644.0	646.0	648.0	649.0	650.0	650.0	650.0	47.5°	35.9	36.7	37.9	39.5
656.5	658.0	661.0	664.0	662.5	661.0	660.5	660.0	50°	35.1	36.3	37.5	39.1
665.0	667.0	669.0	671.0	670.5	670.0	669.0	668.0	52.5°	35.1	35.9	37.1	39.1
672.5	672.0	674.5	677.0	678.5	680.0	679.0	678.0	55°	33.9	35.1	36.3	38.3
681.5	678.0	681.0	684.0	686.0	688.0	688.0	688.0	57.5°	33.0	33.9	35.5	37.9
688.5	686.0	687.5	689.0	691.5	694.0	695.0	696.0	59°	32.6	33.4	35.1	37.5
689.5	689.0	690.5	692.0	693.0	694.0	695.0	696.0	60°	31.8	33.0	34.7	37.1
690.0	690.0	692.5	695.0	695.5	696.0	695.0	694.0	62.5°	31.0	32.2	33.9	36.3
694.5	694.0	696.5	699.0	700.0	701.0	699.5	698.0	65°	29.8	31.4	33.0	34.7
700.0	700.0	700.0	700.0	700.0	700.0	700.0	700.0	67.5°	29.0	29.8	31.4	33.0
								70°	27.4	28.2	29.4	30.6
								72.5°	25.4	25.8	26.6	27.8
								75°	22.6	23.0	23.4	24.6
								77.5°	19.7	19.7	20.2	21.8
								80°	16.5	16.5	16.9	17.7
								82.5°	12.5	12.5	13.3	14.5
								85°	8.9	8.5	9.7	10.5
								87.5°	5.2	4.8	5.2	5.2
								90°	7.4	8.2	8.8	9.8
								92.5°	6.0	6.0	6.0	6.0
								95°	7.0	7.0	7.0	7.0
								97.5°	8.0	8.0	8.5	9.0
								100°	19.0	19.0	21.0	23.0
								102.5°	38.0	39.0	40.5	42.0
								105°	61.0	61.0	63.0	65.0
								107.5°	86.0	87.0	88.5	90.0



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CATALOG NUMBER: ISW-AF-450-LED-E1-SLL-7030-ULG

ULG

CANDELA DISTRIBUTION (continued):

290°	295°	300°	305°	310°	315°	320°		270°	275°	280°	285°	290°
791.1	791.1	791.1	791.1	791.1	791.1	791.1	110°	117.0	116.0	117.5	119.0	120.0
706.5	702.4	705.7	718.2	722.6	728.2	747.2	112.5°	147.0	147.0	148.0	149.0	149.5
577.5	582.8	577.5	602.9	604.1	621.0	627.9	115°	178.0	177.0	178.0	179.0	180.5
424.4	431.2	442.5	459.4	464.3	488.4	509.0	117.5°	209.0	208.0	209.0	210.0	212.5
331.3	340.1	355.9	366.3	376.8	390.9	407.4	120°	243.0	243.0	244.0	245.0	247.5
294.2	303.5	317.2	330.5	345.4	356.3	370.0	122.5°	277.0	276.0	277.0	278.0	280.5
245.8	260.3	273.6	291.0	303.5	323.2	339.3	125°	310.0	310.0	310.0	310.0	312.5
187.8	208.0	221.3	242.2	261.2	278.5	300.2	127.5°	347.0	345.0	345.5	346.0	346.0
130.6	146.3	163.2	185.8	210.4	234.1	263.2	130°	380.0	379.0	380.0	381.0	381.0
89.9	98.3	111.2	134.6	160.0	194.3	225.7	132.5°	415.0	414.0	414.0	414.0	415.0
76.6	79.8	84.6	95.9	117.3	154.8	189.4	135°	451.0	450.0	448.5	447.0	447.5
68.1	70.5	73.8	79.4	90.7	116.5	154.8	137.5°	482.0	481.0	478.5	476.0	475.5
62.5	65.3	68.5	72.5	78.6	96.3	124.9	140°	511.0	509.0	506.5	504.0	503.0
54.8	56.8	59.6	64.1	68.5	82.6	110.4	142.5°	536.0	534.0	533.5	533.0	533.0
48.4	50.8	54.4	57.6	62.1	73.3	100.3	145°	560.0	558.0	559.5	561.0	561.5
45.1	47.6	50.8	53.6	56.8	66.1	93.1	147.5°	585.0	583.0	584.5	586.0	585.5
43.1	45.5	48.8	51.2	53.2	63.7	90.3	150°	610.0	606.0	604.5	603.0	601.5
41.9	44.7	47.6	49.2	53.2	64.9	83.4	152.5°	628.0	623.0	620.5	618.0	616.0
41.5	44.3	47.6	50.4	58.4	61.3	79.0	155°	641.0	638.0	637.0	636.0	633.5
41.9	44.3	48.4	56.4	56.8	58.0	74.2	157.5°	655.0	650.0	650.0	650.0	649.0
41.9	45.5	54.0	58.8	54.0	54.8	69.7	160°	666.0	660.0	660.5	661.0	662.5
42.3	47.2	56.0	54.8	52.4	51.2	64.9	162.5°	674.0	668.0	669.0	670.0	670.5
42.3	46.3	53.6	51.6	48.4	48.8	59.2	165°	682.0	678.0	679.0	680.0	678.5
41.1	46.3	51.6	46.7	44.3	46.3	54.4	167.5°	694.0	688.0	688.0	688.0	686.0
40.3	47.6	45.9	43.1	43.1	45.1	52.0	170°	701.0	696.0	695.0	694.0	691.5
39.9	48.8	43.5	41.9	41.9	44.7	50.8	172.5°	701.0	696.0	695.0	694.0	693.0
38.7	45.5	39.9	39.1	40.3	42.3	49.2	175°	699.0	694.0	695.0	696.0	695.5
36.3	37.9	36.7	36.7	38.3	40.7	48.4	177.5°	702.0	698.0	699.5	701.0	700.0
33.4	34.3	34.3	34.7	36.3	38.3	49.2	180°	700.0	700.0	700.0	700.0	700.0
31.0	31.0	31.8	32.2	33.4	36.3	47.2						
28.2	28.6	28.6	29.4	30.2	33.0	45.5						
25.0	25.0	25.8	25.8	27.0	29.8	40.7						
21.8	21.8	21.8	22.2	23.0	25.8	33.4						
18.1	18.1	18.1	18.5	18.9	21.4	25.4						
14.5	14.1	13.7	13.7	14.5	16.5	19.7						
10.1	10.1	9.7	9.7	9.7	10.9	13.3						
5.6	4.8	5.2	5.6	5.2	6.0	7.3						
9.4	9.8	9.2	8.6	8.6	8.6	9.9						
6.5	7.0	7.0	7.0	6.5	6.0	6.0						
7.5	8.0	7.5	7.0	7.0	7.0	7.0						
9.5	10.0	11.0	12.0	10.5	9.0	9.0						
24.5	26.0	27.5	29.0	25.0	21.0	16.5						
44.5	47.0	48.5	50.0	45.0	40.0	33.5						
67.5	70.0	71.0	72.0	67.5	63.0	55.5						
92.0	94.0	94.5	95.0	91.5	88.0	80.5						



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CANDELA DISTRIBUTION (continued):

295°	300°	305°	310°	315°	320°		325°	330°	335°	340°	345°	350°
121.0	120.5	120.0	117.0	114.0	108.0	0°	791.1	791.1	791.1	791.1	791.1	791.1
150.0	149.0	148.0	145.5	143.0	138.5	2.5°	744.8	755.2	771.8	775.0	788.3	797.6
182.0	180.5	179.0	176.5	174.0	171.0	5°	631.1	656.1	665.0	682.3	712.5	727.8
215.0	213.0	211.0	208.0	205.0	203.5	7.5°	520.7	539.6	561.0	588.8	611.0	637.2
250.0	248.0	246.0	244.5	243.0	240.0	10°	428.4	455.4	483.2	505.8	536.8	568.2
283.0	281.0	279.0	278.0	277.0	274.0	12.5°	380.4	395.4	422.8	454.6	493.3	528.3
315.0	314.0	313.0	311.5	310.0	307.5	15°	355.5	373.2	402.6	436.5	477.6	521.1
346.0	345.5	345.0	342.5	340.0	339.5	17.5°	324.4	352.6	386.1	434.4	487.6	548.1
381.0	379.0	377.0	374.5	372.0	371.0	20°	293.8	328.1	372.0	435.7	509.4	588.0
416.0	413.5	411.0	408.0	405.0	404.5	22.5°	266.8	307.5	363.1	442.9	537.2	642.0
448.0	445.5	443.0	440.0	437.0	436.0	25°	235.0	289.4	356.3	457.8	579.9	714.5
475.0	474.0	473.0	470.5	468.0	466.0	27.5°	209.6	272.0	346.2	470.7	619.0	784.3
502.0	501.0	500.0	498.5	497.0	494.0	30°	181.4	251.9	332.1	475.1	666.6	841.5
533.0	530.0	527.0	526.0	525.0	523.0	32.5°	158.8	232.9	316.0	471.1	687.9	881.4
562.0	559.0	556.0	553.5	551.0	550.5	35°	147.9	219.2	302.3	457.0	705.7	924.5
585.0	582.5	580.0	577.5	575.0	574.5	37.5°	140.7	204.3	289.0	433.6	725.8	967.2
600.0	598.5	597.0	595.0	593.0	593.0	40°	131.4	192.6	278.1	416.7	741.5	1002.7
614.0	612.5	611.0	610.5	610.0	610.0	42.5°	122.9	182.2	269.6	401.8	745.6	1034.5
631.0	628.5	626.0	627.0	628.0	629.0	45°	115.7	175.7	263.2	402.6	748.4	1078.9
648.0	646.0	644.0	644.5	645.0	645.5	47.5°	110.0	169.7	260.7	416.3	778.2	1140.5
664.0	661.0	658.0	656.5	655.0	655.0	50°	104.8	164.4	256.7	442.9	826.2	1223.9
671.0	669.0	667.0	665.0	663.0	662.0	52.5°	98.7	157.2	251.5	470.3	878.6	1335.6
677.0	674.5	672.0	672.5	673.0	673.0	55°	90.7	147.5	245.8	493.3	949.9	1471.4
684.0	681.0	678.0	681.5	685.0	686.5	57.5°	78.2	136.2	242.2	505.0	993.8	1549.6
689.0	687.5	686.0	688.5	691.0	692.0	59°	71.7	125.3	240.2	499.3	1005.5	1562.9
692.0	690.5	689.0	689.5	690.0	690.0	60°	68.1	118.9	237.0	492.5	1008.7	1554.4
695.0	692.5	690.0	690.0	690.0	690.5	62.5°	63.3	103.6	223.7	458.2	963.6	1452.0
699.0	696.5	694.0	694.5	695.0	696.0	65°	64.5	97.9	193.4	390.1	860.0	1252.2
700.0	700.0	700.0	700.0	700.0	700.0	67.5°	66.1	95.5	167.2	315.2	685.5	1036.1
						70°	64.9	94.3	151.9	250.7	513.4	775.8
						72.5°	63.3	89.1	131.8	201.5	325.6	543.3
						75°	56.0	75.0	103.6	138.2	205.5	395.8
						77.5°	43.9	57.6	73.3	85.8	104.4	279.3
						80°	32.2	41.9	48.0	51.6	58.0	190.6
						82.5°	23.0	28.2	30.6	32.6	38.7	142.7
						85°	17.3	19.7	21.4	21.4	26.2	100.8
						87.5°	9.7	10.1	10.1	10.9	12.9	27.4
						90°	10.8	10.8	10.4	10.3	9.0	7.6
						92.5°	6.0	6.0	6.0	5.5	5.0	4.5
						95°	7.0	7.0	7.0	6.5	6.0	5.5
						97.5°	9.0	8.5	8.0	8.0	8.0	7.5
						100°	12.0	11.0	10.0	9.5	9.0	8.5
						102.5°	27.0	22.5	18.0	15.5	13.0	12.0
						105°	48.0	42.0	36.0	31.5	27.0	24.5
						107.5°	73.0	65.5	58.0	53.5	49.0	45.5



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CATALOG NUMBER: ISW-AF-450-LED-E1-SLL-7030-ULG

CANDELA DISTRIBUTION (continued):

355°	359°	360°		325°	330°	335°	340°	345°	350°	355°
791.1	791.1	791.1	110°	102.0	94.5	87.0	80.5	74.0	71.0	68.0
808.0	814.1	818.9	112.5°	134.0	127.5	121.0	113.5	106.0	102.5	99.0
751.2	766.1	768.9	115°	168.0	163.5	159.0	153.0	147.0	143.0	139.0
666.2	690.4	698.8	117.5°	202.0	199.5	197.0	193.0	189.0	186.5	184.0
603.7	629.9	638.8	120°	237.0	235.0	233.0	229.5	226.0	224.5	223.0
569.5	600.1	609.8	122.5°	271.0	269.0	267.0	264.0	261.0	260.5	260.0
570.3	606.9	621.0	125°	305.0	302.0	299.0	297.5	296.0	295.0	294.0
607.3	649.3	666.6	127.5°	339.0	336.0	333.0	331.0	329.0	329.0	329.0
671.0	731.9	744.8	130°	370.0	368.0	366.0	364.0	362.0	361.5	361.0
757.3	816.9	836.2	132.5°	404.0	402.5	401.0	397.0	393.0	393.5	394.0
838.3	917.3	932.2	135°	435.0	433.5	432.0	429.0	426.0	426.0	426.0
918.1	996.2	1009.5	137.5°	464.0	462.0	460.0	459.5	459.0	458.0	457.0
979.7	1061.5	1072.8	140°	491.0	490.0	489.0	488.0	487.0	486.0	485.0
1039.0	1131.3	1143.7	142.5°	521.0	519.5	518.0	517.5	517.0	516.0	515.0
1105.1	1207.0	1221.5	145°	550.0	548.5	547.0	545.5	544.0	545.0	546.0
1164.7	1281.6	1290.8	147.5°	574.0	574.0	574.0	572.5	571.0	571.5	572.0
1230.8	1342.4	1344.8	150°	593.0	593.0	593.0	593.0	593.0	592.5	592.0
1284.8	1387.6	1388.4	152.5°	610.0	609.5	609.0	608.5	608.0	608.0	608.0
1337.2	1429.9	1430.3	155°	630.0	628.5	627.0	626.0	625.0	625.0	625.0
1392.0	1476.2	1470.2	157.5°	646.0	645.0	644.0	643.5	643.0	643.0	643.0
1478.6	1531.0	1537.1	160°	655.0	655.5	656.0	657.5	659.0	659.5	660.0
1610.4	1657.2	1664.0	162.5°	661.0	663.0	665.0	667.0	669.0	669.0	669.0
1763.6	1828.5	1819.2	165°	673.0	674.5	676.0	676.0	676.0	677.0	678.0
1828.5	1902.6	1910.3	167.5°	688.0	687.0	686.0	685.0	684.0	685.5	687.0
1817.6	1918.7	1931.6	170°	693.0	692.5	692.0	692.0	692.0	693.5	695.0
1800.3	1913.9	1929.6	172.5°	690.0	691.5	693.0	694.0	695.0	696.0	697.0
1701.9	1863.5	1888.1	175°	691.0	693.0	695.0	696.0	697.0	697.5	698.0
1536.7	1759.1	1793.8	177.5°	697.0	698.0	699.0	699.5	700.0	702.5	705.0
1324.3	1603.2	1631.0	180°	700.0	700.0	700.0	700.0	700.0	700.0	700.0
1033.3	1302.9	1326.7								
686.7	894.7	935.8								
436.5	577.1	569.5								
322.0	375.2	375.6								
233.7	257.5	254.7								
181.0	157.2	156.8								
63.3	55.6	54.4								
27.4	23.0	23.4								
6.2	6.2	6.6								
4.0	4.0	4.0								
5.0	5.0	5.0								
7.0	7.0	7.0								
8.0	8.0	8.0								
11.0	11.0	11.0								
22.0	21.2	21.0								
42.0	41.2	41.0								



359°	360°
66.4	66.0
99.0	99.0
139.8	140.0
184.0	184.0
224.6	225.0
262.4	263.0
297.2	298.0
329.8	330.0
362.6	363.0
395.6	396.0
428.4	429.0
459.4	460.0
487.4	488.0
517.4	518.0
549.2	550.0
574.4	575.0
594.4	595.0
610.4	611.0
628.2	629.0
645.4	646.0
662.4	663.0
672.2	673.0
680.4	681.0
689.4	690.0
697.4	698.0
698.6	699.0
699.6	700.0
706.6	707.0
700.0	700.0

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