

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: P228228

Luminaire Tested: **ISS-AF-450-LED-E1-SL3-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P228228
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29762)
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-SL3-7050
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE III W/SPILL CONTROL
Light Source: (16) 5000K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2787 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

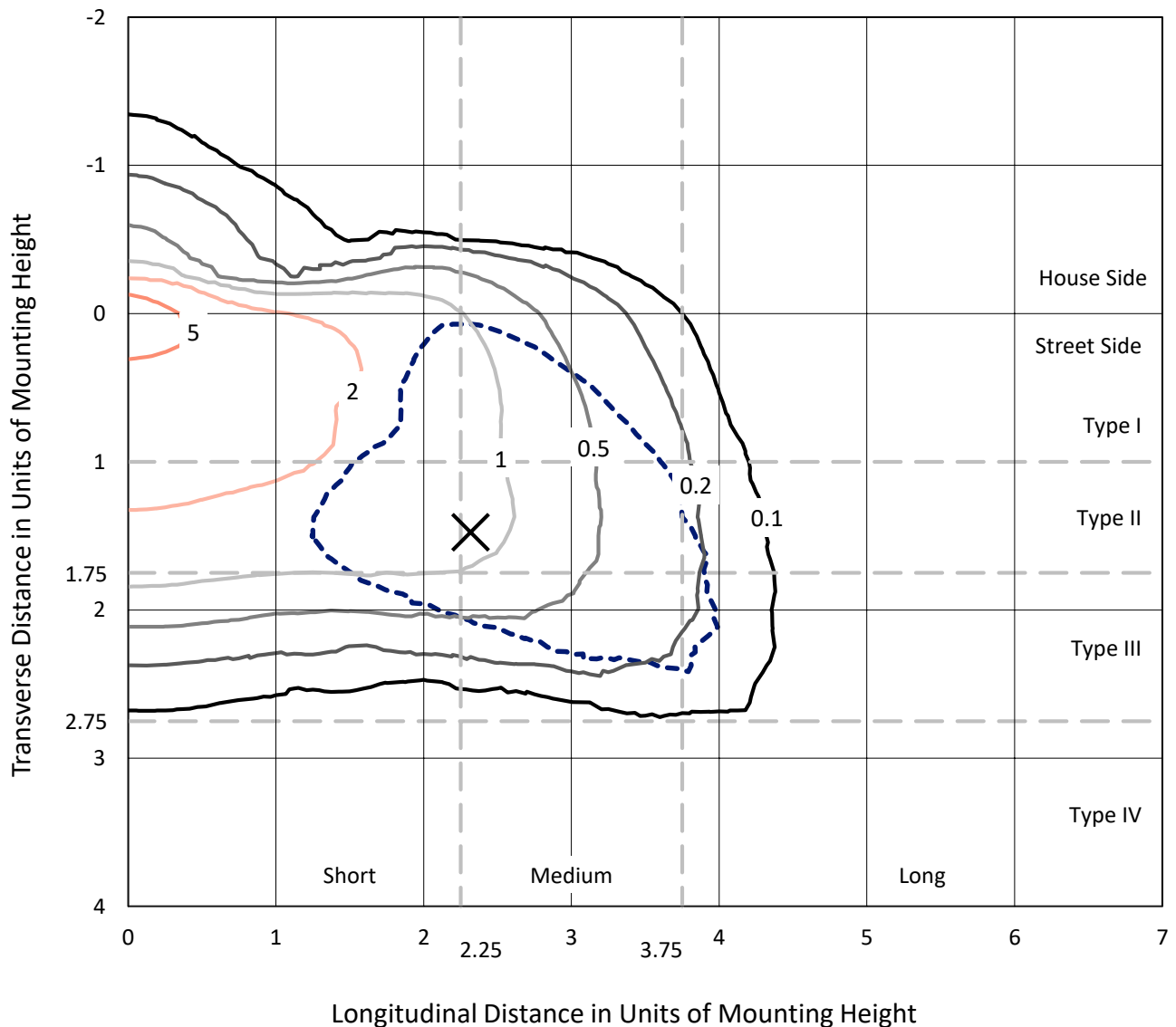
Input Watts (W): 25.31
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

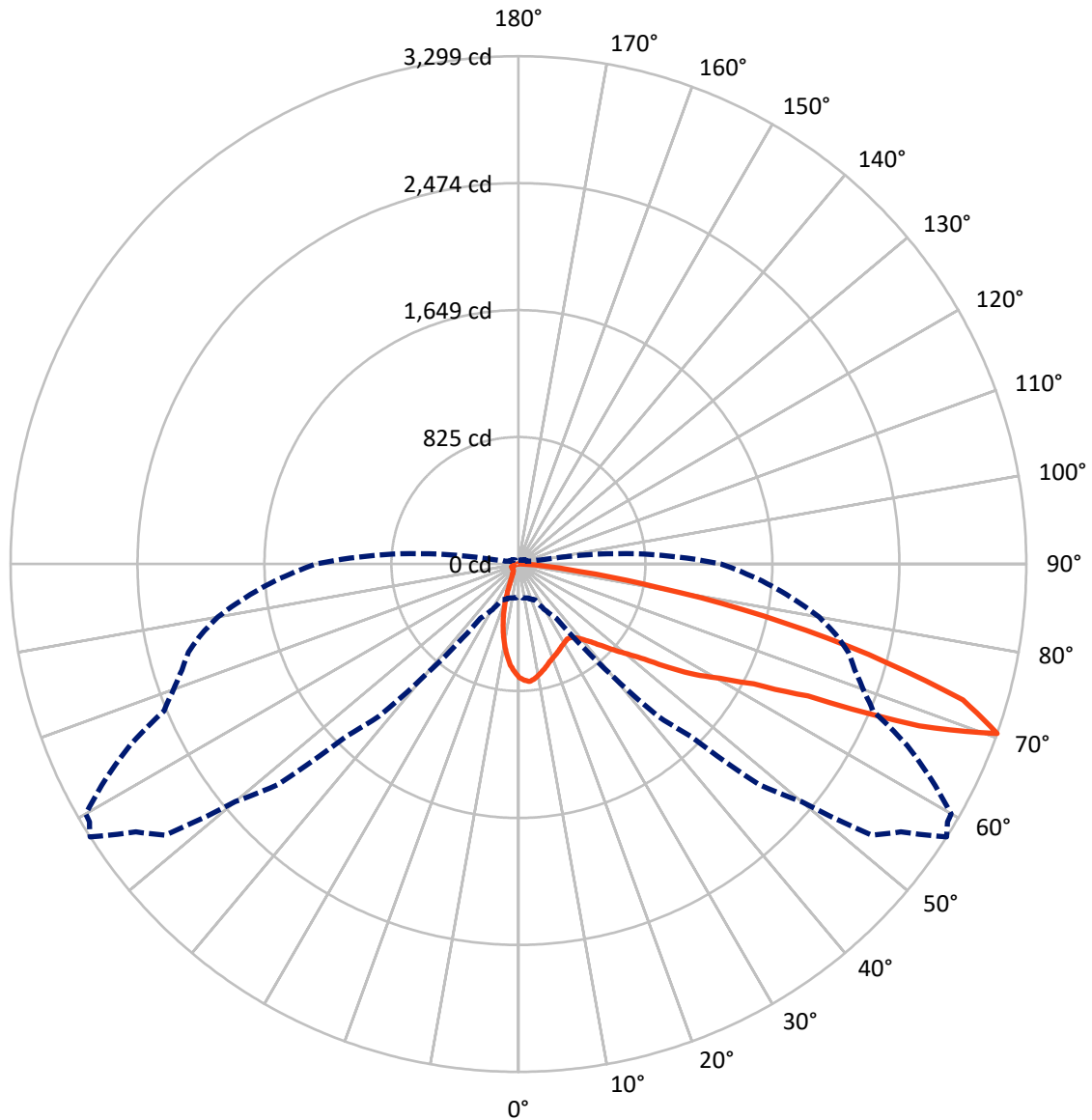
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.4 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57.5-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	344.9	0.0	344.9
	% Fixture	12.4	0.0	12.4
Street Side	Lumens	2442.1	0.0	2442.1
	% Fixture	87.6	0.0	87.6
Total	Lumens	2787.0	0.0	2787.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.7	2.3
10°-20°	138.3	5.0
20°-30°	173.8	6.2
30°-40°	227.1	8.1
40°-50°	340.7	12.2
50°-60°	538.7	19.3
60°-70°	776.5	27.9
70°-80°	480.6	17.2
80°-90°	47.7	1.7
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°	2787.0	100.0
0°-180°	2787.0	100.0



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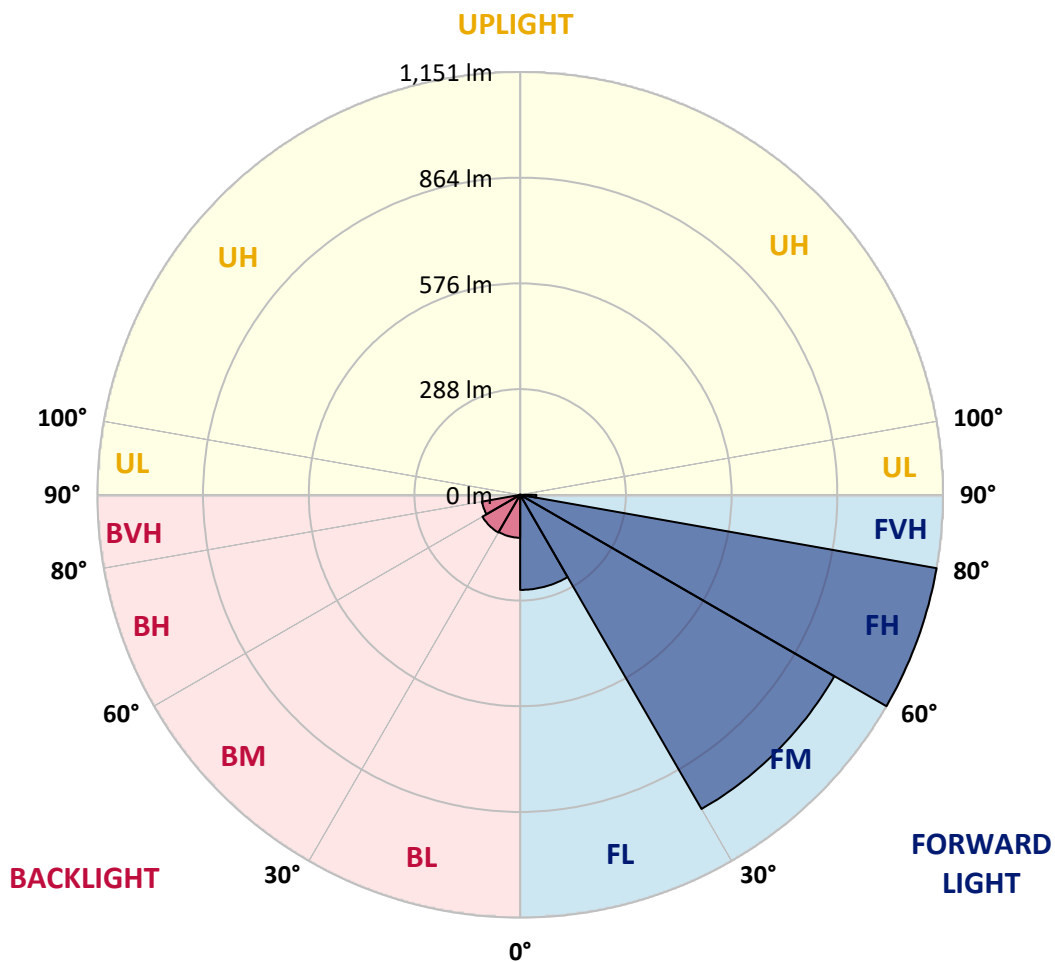
CATALOG NUMBER: ISS-AF-450-LED-E1-SL3-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	258.8	9.3			
FM	(30°-60°)	987.9	35.4			
FH	(60°-80°)	1151.5	41.3			G1/1800
FVH	(80°-90°)	43.9	1.6			G1/100
BL	(0°-30°)	116.9	4.2	B1/500		
BM	(30°-60°)	118.6	4.3	B0/220		
BH	(60°-80°)	105.6	3.8	B0/110		G0/110
BVH	(80°-90°)	3.8	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
0°	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7
2.5°	774.3	773.3	771.3	767.3	765.4	767.3	765.4	762.4	758.4	761.4	759.4
5°	772.3	774.3	770.3	767.3	772.3	774.3	770.3	770.3	766.3	770.3	768.3
7.5°	733.7	734.7	735.7	734.7	747.6	747.6	745.6	747.6	748.5	750.5	751.5
10°	685.3	686.3	688.2	691.2	707.0	709.0	710.0	712.0	714.9	716.9	722.8
12.5°	636.8	638.8	642.7	652.6	669.4	671.4	674.4	677.4	682.3	685.3	696.1
15°	596.3	597.3	601.2	612.1	636.8	641.8	643.7	647.7	657.6	657.6	669.4
17.5°	558.7	560.7	563.6	576.5	601.2	609.1	615.1	617.0	629.9	632.9	646.7
20°	530.0	531.0	532.0	543.9	566.6	578.5	583.4	591.3	601.2	609.1	621.0
22.5°	514.2	515.2	513.2	518.1	537.9	552.8	558.7	566.6	570.6	584.4	591.3
25°	515.2	516.2	511.2	508.3	518.1	534.0	538.9	546.8	544.8	564.6	564.6
27.5°	525.1	527.0	522.1	513.2	514.2	527.0	530.0	533.0	527.0	546.8	542.9
30°	544.8	546.8	540.9	534.0	523.1	531.0	531.0	531.0	520.1	536.9	530.0
32.5°	565.6	567.6	565.6	560.7	546.8	548.8	544.8	542.9	528.0	541.9	531.0
35°	596.3	597.3	598.2	598.2	578.5	582.4	571.5	565.6	551.8	562.6	547.8
37.5°	632.9	632.9	639.8	642.7	621.0	621.0	609.1	601.2	588.4	592.3	577.5
40°	665.5	668.5	684.3	693.2	673.4	665.5	655.6	648.7	638.8	638.8	624.0
42.5°	703.1	709.0	727.8	744.6	733.7	721.9	712.0	705.0	700.1	699.1	683.3
45°	749.5	756.5	777.2	793.0	796.0	787.1	779.2	772.3	768.3	766.3	752.5
47.5°	801.9	808.9	827.7	846.4	860.3	858.3	849.4	842.5	845.5	843.5	834.6
50°	860.3	864.2	876.1	897.9	929.5	936.4	934.4	929.5	935.4	935.4	927.5
52.5°	906.8	909.7	918.6	944.3	996.7	1012.6	1025.4	1035.3	1045.2	1051.1	1046.2
55°	949.3	949.3	950.3	982.9	1061.0	1086.7	1115.4	1136.2	1149.0	1172.8	1182.6
57.5°	1018.5	1013.6	1012.6	1047.2	1138.1	1164.8	1206.4	1236.0	1253.8	1302.3	1301.3
60°	998.7	1000.7	1036.3	1138.1	1296.4	1320.1	1357.7	1389.3	1422.9	1458.5	1461.5
62.5°	861.3	866.2	919.6	1071.9	1397.2	1520.8	1636.5	1724.5	1774.0	1805.6	1762.1
65°	603.2	615.1	687.2	873.1	1286.5	1477.3	1660.3	1864.0	2020.2	2262.5	2332.7
67.5°	300.6	309.5	321.4	457.8	961.1	1229.1	1481.3	1759.1	1966.8	2322.8	2521.5
70°	215.6	219.5	228.4	257.1	430.1	643.7	940.4	1337.9	1582.1	2119.1	2399.9
72.5°	167.1	171.1	182.9	223.5	284.8	314.4	373.8	611.1	908.7	1463.5	1843.2
75°	129.5	135.5	152.3	201.7	273.9	290.7	293.7	315.4	359.9	649.7	1033.3
77.5°	91.0	92.0	108.8	174.0	266.0	298.6	293.7	293.7	299.6	331.3	442.0
80°	60.3	61.3	72.2	120.6	233.4	271.9	300.6	286.8	287.8	292.7	300.6
82.5°	31.6	33.6	42.5	73.2	136.5	183.9	250.2	261.1	257.1	262.0	260.1
85°	8.9	8.9	14.8	27.7	67.2	71.2	110.7	151.3	154.3	175.0	186.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	4.0	8.9	9.9
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):

	52.5°	55°	57.5°	59°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7
2.5°	761.4	757.4	756.5	754.5	755.5	752.5	751.5	747.6	747.6	745.6	743.6
5°	766.3	762.4	766.3	759.4	760.4	757.4	752.5	752.5	748.5	745.6	739.6
7.5°	752.5	752.5	753.5	749.5	750.5	749.5	743.6	742.6	736.7	736.7	729.8
10°	726.8	726.8	730.7	727.8	728.8	727.8	724.8	723.8	721.9	721.9	711.0
12.5°	697.1	703.1	709.0	706.0	706.0	708.0	708.0	709.0	708.0	707.0	698.1
15°	672.4	681.3	687.2	686.3	687.2	692.2	694.2	695.2	698.1	697.1	689.2
17.5°	649.7	659.6	664.5	668.5	671.4	675.4	681.3	684.3	688.2	687.2	679.3
20°	628.9	637.8	646.7	651.6	652.6	660.5	667.5	676.4	678.3	680.3	670.4
22.5°	607.1	615.1	632.9	629.9	636.8	651.6	655.6	668.5	668.5	675.4	661.5
25°	588.4	589.3	617.0	612.1	618.0	644.7	647.7	670.4	664.5	674.4	658.6
27.5°	569.6	568.6	602.2	596.3	603.2	639.8	641.8	673.4	667.5	679.3	658.6
30°	555.7	552.8	591.3	579.5	589.3	634.8	635.8	676.4	671.4	687.2	665.5
32.5°	552.8	547.8	581.4	572.5	582.4	629.9	635.8	687.2	681.3	701.1	673.4
35°	565.6	557.7	586.4	578.5	586.4	631.9	640.8	704.1	697.1	719.9	692.2
37.5°	589.3	583.4	607.1	599.2	605.2	645.7	653.6	725.8	724.8	752.5	720.9
40°	630.9	624.9	643.7	632.9	637.8	675.4	679.3	756.5	759.4	793.0	761.4
42.5°	687.2	677.4	692.2	679.3	686.3	719.9	715.9	794.0	802.9	849.4	812.8
45°	759.4	746.6	755.5	741.6	746.6	775.2	764.4	844.5	853.4	910.7	878.1
47.5°	838.5	822.7	833.6	815.8	818.8	849.4	829.6	904.8	918.6	990.8	959.2
50°	933.5	912.7	916.7	899.8	901.8	932.5	910.7	978.9	995.8	1075.9	1048.2
52.5°	1055.1	1025.4	1025.4	1002.7	1003.7	1034.3	1007.6	1067.0	1085.7	1166.8	1148.0
55°	1215.3	1191.5	1186.6	1162.9	1155.0	1160.9	1123.3	1164.8	1185.6	1261.8	1246.9
57.5°	1342.8	1339.9	1354.7	1321.1	1313.2	1315.2	1267.7	1270.7	1294.4	1353.7	1358.7
60°	1498.1	1503.0	1505.0	1477.3	1474.4	1446.7	1398.2	1390.3	1420.0	1460.5	1476.3
62.5°	1745.3	1740.4	1715.6	1694.9	1676.1	1601.9	1575.2	1531.7	1573.2	1596.0	1628.6
65°	2276.3	2224.9	2066.7	2080.5	2031.1	1869.9	1847.1	1759.1	1824.4	1825.4	1886.7
67.5°	2802.4	2903.2	2806.3	2808.3	2696.6	2404.8	2334.6	2159.6	2196.2	2153.7	2185.3
70°	2892.3	3033.7	3298.8	3251.3	3245.4	3020.9	2784.6	2492.9	2383.1	2292.1	2218.9
72.5°	2488.9	2630.3	3018.9	2911.1	2951.7	3019.9	2773.7	2555.2	2309.9	2194.2	2036.0
75°	1751.2	1954.9	2349.5	2293.1	2322.8	2435.5	2223.9	2198.2	1914.4	1837.3	1594.0
77.5°	938.4	1190.6	1632.6	1563.3	1576.2	1640.5	1420.0	1374.5	1100.6	1024.4	748.5
80°	422.2	585.4	916.7	839.5	816.8	780.2	574.5	452.9	276.9	183.9	127.6
82.5°	279.8	290.7	406.4	352.0	329.3	271.9	176.0	103.8	82.1	69.2	66.3
85°	187.9	172.1	171.1	151.3	140.4	110.7	82.1	51.4	42.5	35.6	32.6
87.5°	10.9	6.9	9.9	10.9	7.9	6.9	4.9	0.0	1.0	0.0	1.0
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):

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7
2.5°	738.7	738.7	737.7	730.7	726.8	724.8	717.9	716.9	713.9	713.0	713.0
5°	737.7	733.7	728.8	718.9	709.0	700.1	697.1	690.2	685.3	679.3	679.3
7.5°	723.8	719.9	709.0	694.2	681.3	668.5	661.5	651.6	643.7	635.8	633.8
10°	708.0	702.1	687.2	667.5	650.7	627.9	619.0	606.2	597.3	585.4	573.5
12.5°	691.2	687.2	669.4	646.7	621.0	592.3	578.5	560.7	548.8	535.0	517.2
15°	684.3	676.4	653.6	624.9	593.3	558.7	538.9	520.1	502.3	486.5	462.8
17.5°	675.4	665.5	639.8	606.2	566.6	525.1	499.4	478.6	454.9	438.1	411.4
20°	665.5	650.7	623.0	582.4	537.9	488.5	455.9	435.1	403.4	386.6	355.0
22.5°	657.6	638.8	605.2	559.7	506.3	450.9	412.3	388.6	353.0	333.2	293.7
25°	655.6	632.9	592.3	540.9	479.6	414.3	367.8	344.1	299.6	276.9	230.4
27.5°	656.6	629.9	584.4	525.1	455.9	381.7	326.3	298.6	242.3	218.5	165.1
30°	657.6	630.9	576.5	511.2	434.1	348.1	282.8	250.2	182.9	162.2	114.7
32.5°	667.5	634.8	574.5	500.4	414.3	314.4	233.4	203.7	129.5	117.7	85.0
35°	679.3	647.7	578.5	498.4	399.5	280.8	182.9	152.3	93.0	90.0	69.2
37.5°	704.1	667.5	594.3	503.3	390.6	246.2	136.5	116.7	73.2	75.2	60.3
40°	741.6	701.1	620.0	518.1	389.6	211.6	100.9	91.0	63.3	65.3	55.4
42.5°	792.1	747.6	659.6	549.8	394.5	179.0	81.1	78.1	58.3	60.3	53.4
45°	858.3	812.8	714.9	590.3	408.4	152.3	71.2	71.2	56.4	58.3	52.4
47.5°	942.4	891.9	783.2	644.7	430.1	137.4	67.2	68.2	55.4	58.3	52.4
50°	1037.3	981.9	870.2	714.9	463.8	133.5	68.2	68.2	56.4	58.3	52.4
52.5°	1136.2	1084.8	964.1	795.0	510.2	142.4	70.2	69.2	56.4	58.3	51.4
55°	1237.0	1190.6	1067.9	889.0	574.5	174.0	75.2	72.2	56.4	58.3	52.4
57.5°	1337.9	1305.3	1176.7	989.8	654.6	231.4	94.9	84.1	62.3	63.3	53.4
60°	1451.6	1427.9	1299.3	1122.3	768.3	320.4	139.4	105.8	74.2	70.2	57.4
62.5°	1598.9	1593.0	1491.2	1313.2	951.3	448.9	197.8	128.5	80.1	73.2	61.3
65°	1859.0	1874.8	1777.9	1536.7	1072.9	451.9	192.8	112.7	75.2	69.2	60.3
67.5°	2120.1	2073.6	1824.4	1503.0	968.1	300.6	122.6	88.0	66.3	64.3	56.4
70°	2110.2	1983.6	1654.3	1314.2	764.4	163.2	89.0	73.2	59.3	59.3	53.4
72.5°	1892.6	1704.8	1352.7	1040.3	510.2	103.8	75.2	64.3	54.4	53.4	49.4
75°	1424.9	1203.4	869.2	599.2	227.4	67.2	57.4	52.4	47.5	47.5	43.5
77.5°	670.4	377.7	209.6	139.4	76.1	45.5	39.6	39.6	38.6	39.6	35.6
80°	91.0	82.1	70.2	61.3	46.5	31.6	28.7	29.7	28.7	29.7	26.7
82.5°	55.4	49.4	40.5	38.6	28.7	21.8	20.8	21.8	19.8	20.8	15.8
85°	26.7	23.7	18.8	17.8	14.8	12.9	10.9	12.9	9.9	10.9	6.9
87.5°	0.0	2.0	1.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	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):

	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°
0°	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7	737.7
2.5°	708.0	705.0	704.1	700.1	699.1	695.2	694.2	690.2	683.3	680.3	675.4
5°	670.4	665.5	661.5	659.6	651.6	647.7	641.8	633.8	619.0	612.1	600.2
7.5°	618.0	617.0	605.2	601.2	591.3	584.4	575.5	562.6	540.9	528.0	509.3
10°	560.7	556.7	542.9	535.0	522.1	512.2	500.4	481.6	447.9	421.2	392.6
12.5°	507.3	495.4	479.6	467.7	451.9	438.1	424.2	395.5	342.1	298.6	259.1
15°	451.9	434.1	417.3	397.5	380.7	358.9	343.1	305.6	235.3	181.9	157.2
17.5°	395.5	370.8	352.0	325.3	306.5	276.9	260.1	214.6	154.3	130.5	122.6
20°	336.2	303.6	282.8	250.2	231.4	193.8	181.0	148.3	118.7	109.8	107.8
22.5°	272.9	233.4	210.6	175.0	162.2	139.4	129.5	113.7	99.9	95.9	97.9
25°	206.7	164.1	149.3	123.6	118.7	106.8	102.8	94.9	88.0	88.0	91.0
27.5°	147.3	114.7	110.7	94.9	93.9	88.0	85.0	81.1	79.1	81.1	85.0
30°	107.8	87.0	87.0	78.1	78.1	74.2	73.2	71.2	71.2	75.2	79.1
32.5°	85.0	71.2	73.2	66.3	67.2	64.3	65.3	64.3	65.3	68.2	71.2
35°	71.2	61.3	64.3	58.3	60.3	57.4	59.3	59.3	61.3	62.3	63.3
37.5°	63.3	56.4	58.3	54.4	56.4	53.4	56.4	56.4	57.4	57.4	57.4
40°	58.3	52.4	55.4	51.4	54.4	51.4	54.4	54.4	53.4	52.4	53.4
42.5°	55.4	51.4	54.4	50.4	53.4	50.4	52.4	51.4	49.4	49.4	49.4
45°	54.4	50.4	52.4	49.4	51.4	48.5	50.4	49.4	46.5	45.5	47.5
47.5°	54.4	49.4	52.4	48.5	50.4	47.5	49.4	46.5	43.5	43.5	46.5
50°	54.4	49.4	52.4	48.5	50.4	46.5	47.5	44.5	40.5	41.5	45.5
52.5°	55.4	51.4	53.4	49.4	50.4	44.5	46.5	42.5	39.6	40.5	43.5
55°	56.4	51.4	53.4	47.5	48.5	44.5	44.5	42.5	39.6	39.6	42.5
57.5°	56.4	50.4	51.4	46.5	47.5	42.5	43.5	41.5	38.6	37.6	39.6
60°	58.3	52.4	52.4	45.5	46.5	41.5	42.5	40.5	37.6	35.6	36.6
62.5°	60.3	53.4	54.4	47.5	47.5	42.5	43.5	39.6	35.6	33.6	34.6
65°	60.3	53.4	54.4	48.5	48.5	43.5	43.5	39.6	33.6	31.6	31.6
67.5°	57.4	52.4	53.4	48.5	48.5	43.5	43.5	38.6	32.6	29.7	28.7
70°	55.4	50.4	51.4	45.5	46.5	41.5	41.5	36.6	30.7	27.7	25.7
72.5°	50.4	46.5	46.5	42.5	41.5	36.6	36.6	33.6	28.7	24.7	22.7
75°	43.5	39.6	38.6	34.6	34.6	31.6	30.7	27.7	23.7	20.8	19.8
77.5°	35.6	30.7	30.7	25.7	25.7	22.7	23.7	20.8	17.8	16.8	15.8
80°	25.7	20.8	20.8	16.8	16.8	13.8	14.8	13.8	12.9	12.9	11.9
82.5°	15.8	10.9	11.9	8.9	10.9	7.9	8.9	7.9	7.9	6.9	6.9
85°	7.9	4.0	5.9	3.0	4.9	1.0	3.0	2.0	2.0	2.0	2.0
87.5°	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	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°	737.7	737.7
2.5°	670.4	673.4
5°	596.3	597.3
7.5°	506.3	504.3
10°	386.6	381.7
12.5°	249.2	242.3
15°	150.3	148.3
17.5°	120.6	120.6
20°	107.8	107.8
22.5°	99.9	99.9
25°	93.9	94.9
27.5°	89.0	89.0
30°	83.1	83.1
32.5°	73.2	73.2
35°	65.3	64.3
37.5°	58.3	59.3
40°	53.4	54.4
42.5°	51.4	51.4
45°	49.4	49.4
47.5°	49.4	49.4
50°	48.5	49.4
52.5°	47.5	47.5
55°	44.5	45.5
57.5°	41.5	42.5
60°	38.6	38.6
62.5°	34.6	34.6
65°	31.6	31.6
67.5°	27.7	27.7
70°	24.7	24.7
72.5°	21.8	21.8
75°	18.8	18.8
77.5°	15.8	14.8
80°	11.9	11.9
82.5°	6.9	6.9
85°	2.0	2.0
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)