

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: INVUE

Report Number: P139715

Luminaire Tested: **ENV-F02-LED-E1-BL4**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P139715
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33646)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENV-F02-LED-E1-BL4
Description: ENTRI LED LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (14) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4313.4 lumens
Efficiency: N/A
Efficacy: 87.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.33' x H: 0')
IES Classification: Type III - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 49.3
Input Voltage (V): NR
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

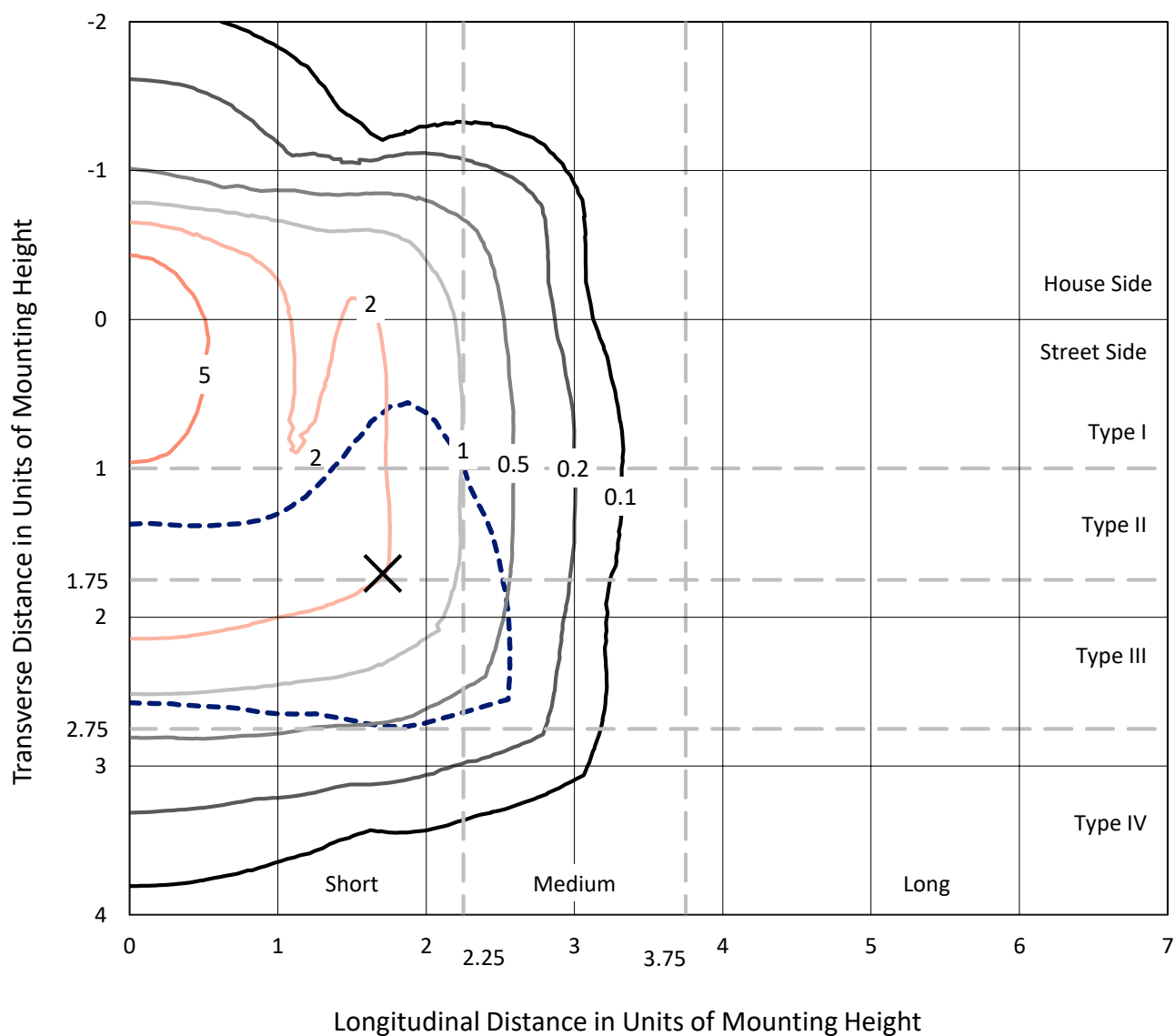


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
- - - 1/2 Max cd

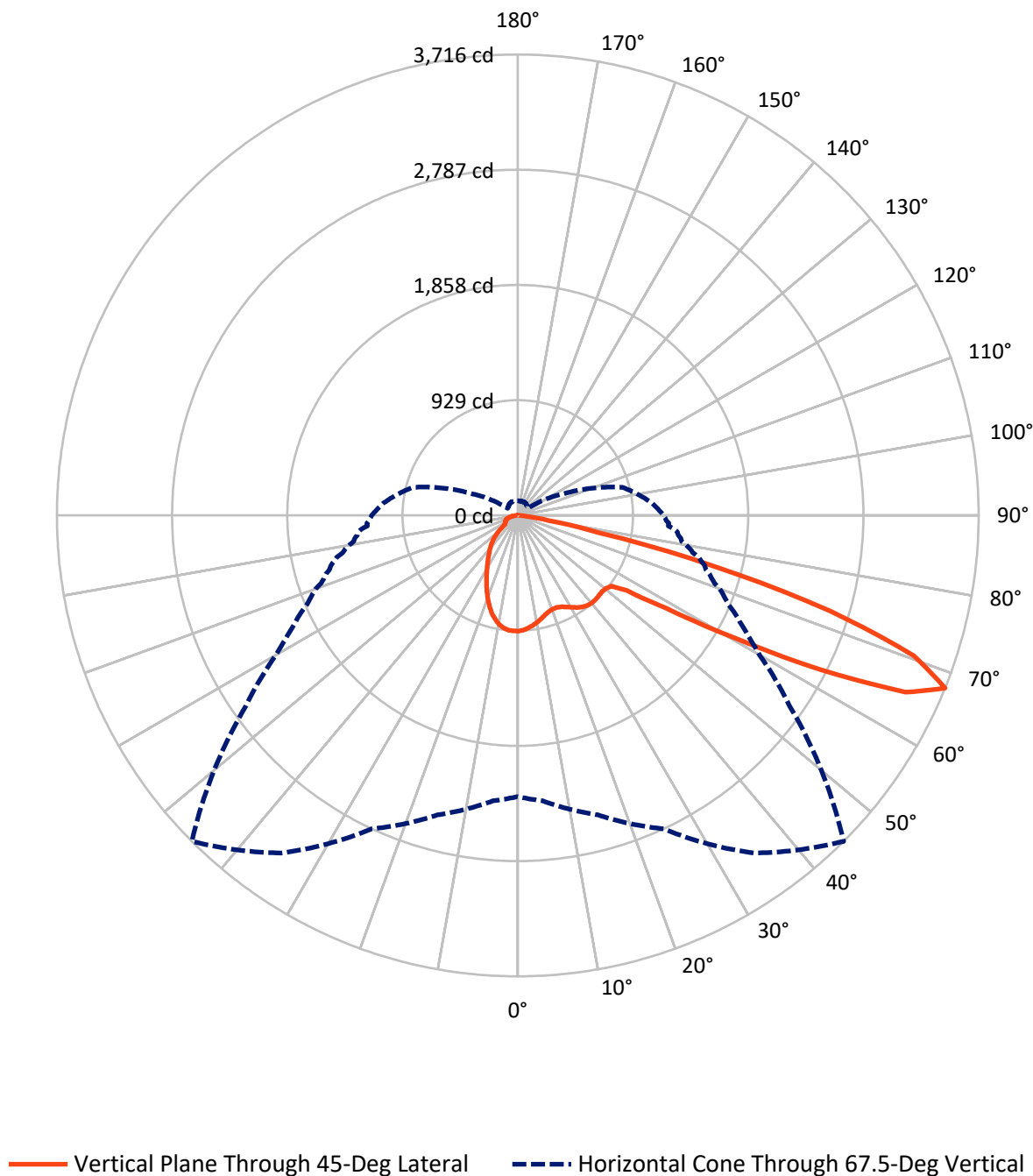


Based on 10 foot mounting height. Maximum calculated value = 9.3 fc
Type III - Short - Full Cutoff

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Luminous Intensity Polar Plot



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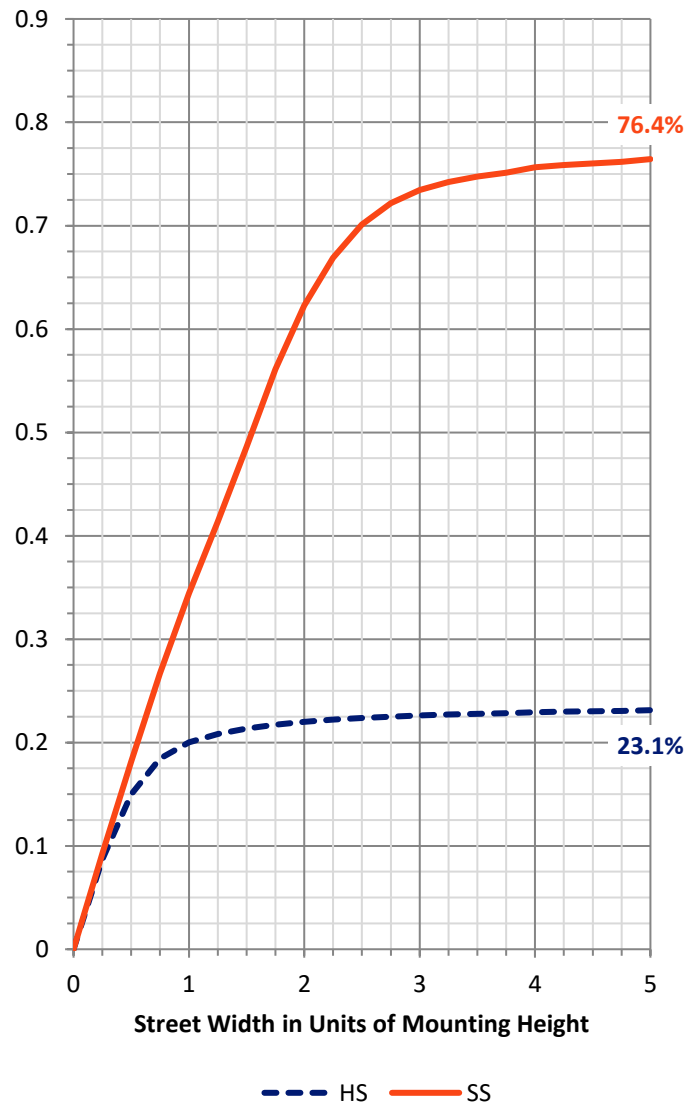
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1010.8	0.0	1010.8
	% Fixture	23.4	0.0	23.4
Street Side	Lumens	3302.6	0.0	3302.6
	% Fixture	76.6	0.0	76.6
Total	Lumens	4313.4	0.0	4313.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.6	2.0
10°-20°	233.1	5.4
20°-30°	335.9	7.8
30°-40°	428.6	9.9
40°-50°	505.9	11.7
50°-60°	811.3	18.8
60°-70°	1365.5	31.7
70°-80°	507.9	11.8
80°-90°	38.6	0.9
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°	4313.4	100.0
0°-180°	4313.4	100.0

Coefficient of Utilization



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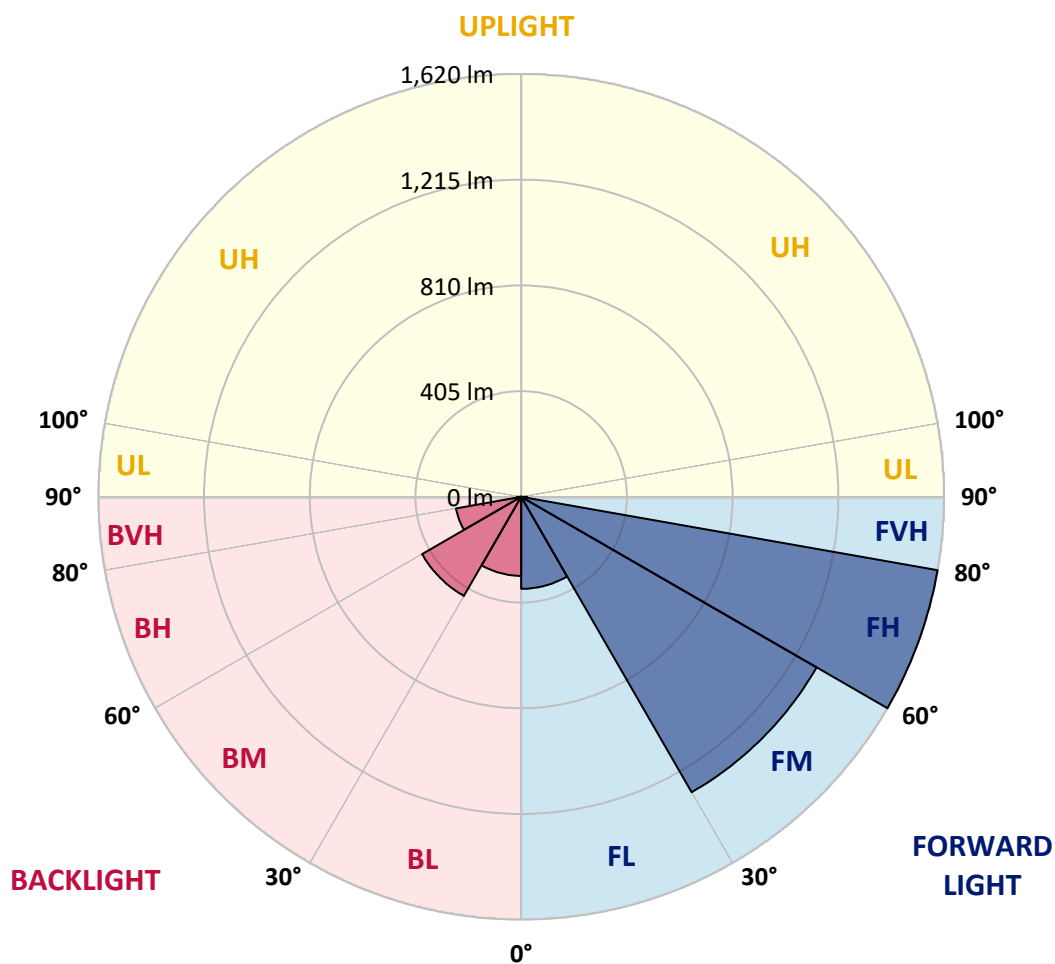
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	352.6	8.2			
FM	(30°-60°)	1307.1	30.3			
FH	(60°-80°)	1620.1	37.6			G1/1800
FVH	(80°-90°)	22.9	0.5			G1/100
BL	(0°-30°)	303.0	7.0	B1/500		
BM	(30°-60°)	438.8	10.2	B1/1000		
BH	(60°-80°)	253.3	5.9	B1/500		G1/500
BVH	(80°-90°)	15.7	0.4			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 III Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
0°	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0
2.5°	918.8	918.8	920.5	920.5	922.9	924.6	922.9	926.2	926.2	925.4	927.1
5°	905.6	905.6	906.4	906.4	908.1	910.6	908.9	912.2	911.4	912.2	912.2
7.5°	889.9	889.9	891.6	890.7	891.6	893.2	889.1	891.6	891.6	892.4	891.6
10°	870.1	871.8	873.4	872.6	872.6	873.4	866.8	869.3	868.5	868.5	867.6
12.5°	851.9	850.3	851.9	853.6	852.8	852.8	846.2	844.5	844.5	844.5	845.3
15°	833.0	834.6	837.1	834.6	833.0	829.7	823.0	821.4	821.4	821.4	822.2
17.5°	828.8	828.8	830.5	828.0	821.4	814.8	801.6	799.1	799.1	798.3	798.3
20°	840.4	839.6	842.0	837.1	822.2	804.9	784.2	780.1	780.1	780.1	779.3
22.5°	864.3	864.3	868.5	862.7	838.7	805.7	775.2	768.6	767.7	766.9	765.3
25°	910.6	909.7	912.2	897.3	862.7	816.4	772.7	762.8	762.0	760.3	758.7
27.5°	964.2	965.9	970.8	948.5	897.3	835.4	783.4	766.9	765.3	762.8	759.5
30°	1017.0	1022.0	1031.1	1007.1	937.0	859.4	799.9	780.9	777.6	774.3	768.6
32.5°	1083.9	1082.3	1097.1	1060.8	971.6	885.0	817.3	794.2	790.0	785.1	777.6
35°	1154.9	1158.2	1161.5	1102.9	1000.5	905.6	828.0	801.6	796.6	791.7	780.9
37.5°	1225.9	1226.7	1219.3	1136.7	1017.9	918.0	833.8	803.2	796.6	789.2	776.8
40°	1291.1	1288.6	1266.4	1162.3	1027.8	924.6	836.3	799.9	791.7	784.2	770.2
42.5°	1328.3	1325.8	1297.7	1173.9	1028.6	923.8	836.3	796.6	787.6	778.5	762.8
45°	1344.0	1342.3	1310.1	1175.5	1022.8	918.8	831.3	793.3	784.2	776.0	759.5
47.5°	1345.6	1345.6	1312.6	1173.1	1017.9	915.5	831.3	797.5	790.0	783.4	771.0
50°	1338.2	1339.0	1313.4	1179.7	1022.0	922.9	839.6	807.4	799.9	793.3	779.3
52.5°	1425.7	1417.4	1360.5	1209.4	1049.2	946.9	867.6	838.7	836.3	832.1	821.4
55°	2094.4	2101.0	1789.7	1395.1	1164.0	1069.9	1036.9	1031.1	1049.2	1055.8	1055.8
57.5°	2659.0	2637.6	2520.3	2035.7	1522.3	1409.2	1422.4	1436.4	1462.8	1474.4	1482.6
60°	2796.9	2798.5	2795.2	2657.4	2247.1	1989.5	1925.1	1864.0	1861.6	1840.1	1823.6
62.5°	2780.4	2793.6	2855.5	2886.9	2927.3	2738.3	2345.3	2176.1	2143.1	2102.6	2044.8
65°	2660.7	2680.5	2779.5	2932.3	3280.6	3435.8	2628.5	2325.5	2274.3	2225.6	2128.2
67.5°	2266.9	2309.8	2499.7	2787.8	3322.7	3715.7	2674.7	2252.9	2185.2	2121.6	2006.0
70°	1399.3	1421.6	1714.6	2249.6	3010.7	3388.0	2428.7	1911.9	1826.1	1745.2	1587.5
72.5°	903.1	895.7	945.2	1267.2	2212.4	2632.6	1670.0	1271.3	1201.1	1136.7	1035.2
75°	632.4	633.2	610.9	604.3	1026.1	1630.4	756.2	543.2	511.8	498.6	477.2
77.5°	411.9	416.9	411.1	426.8	411.1	677.8	347.5	255.1	242.7	234.4	221.2
80°	248.5	265.0	269.9	273.2	277.4	255.9	206.4	150.2	135.4	121.4	99.9
82.5°	43.8	42.9	59.4	80.1	104.8	119.7	86.7	54.5	51.2	49.5	45.4
85°	0.0	0.0	0.8	0.8	1.7	5.8	9.1	10.7	9.9	10.7	11.6
87.5°	0.0	0.0	0.0	0.8	0.8	1.7	1.7	1.7	1.7	1.7	1.7
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):

	65°	66°	67°	68°	69°	70°	71°	72°	73°	74°	75°
0°	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0
2.5°	927.1	926.2	925.4	925.4	927.1	927.1	926.2	926.2	927.1	926.2	927.9
5°	913.0	912.2	912.2	911.4	912.2	913.0	912.2	912.2	913.0	912.2	913.9
7.5°	890.7	891.6	890.7	890.7	891.6	892.4	891.6	891.6	891.6	891.6	890.7
10°	867.6	867.6	866.8	866.8	868.5	867.6	866.8	866.8	867.6	868.5	866.8
12.5°	844.5	846.2	846.2	842.9	843.7	844.5	844.5	843.7	843.7	846.2	843.7
15°	821.4	822.2	821.4	822.2	820.6	819.7	820.6	820.6	818.9	818.1	818.1
17.5°	798.3	797.5	797.5	795.8	795.0	795.0	794.2	795.0	793.3	794.2	791.7
20°	777.6	776.8	776.0	776.0	773.5	773.5	773.5	772.7	771.0	771.0	770.2
22.5°	765.3	764.4	763.6	762.0	761.1	760.3	760.3	759.5	757.8	757.0	756.2
25°	758.7	757.8	756.2	754.5	753.7	752.9	752.9	752.1	750.4	748.8	747.9
27.5°	759.5	757.8	756.2	754.5	753.7	752.1	751.2	750.4	748.8	747.1	745.4
30°	766.9	763.6	760.3	757.8	755.4	752.9	751.2	750.4	747.9	745.4	743.0
32.5°	774.3	770.2	765.3	760.3	756.2	752.1	749.6	747.1	743.8	739.7	737.2
35°	776.8	771.9	764.4	760.3	754.5	749.6	745.4	742.1	736.4	731.4	727.3
37.5°	771.0	765.3	757.8	752.1	746.3	739.7	734.7	729.8	725.6	719.9	715.7
40°	762.0	755.4	747.9	739.7	733.9	727.3	722.3	718.2	712.4	707.5	704.2
42.5°	754.5	747.1	738.8	732.2	725.6	719.0	713.3	709.1	703.3	697.6	693.4
45°	752.1	744.6	738.0	729.8	723.2	718.2	713.3	707.5	702.5	697.6	692.6
47.5°	765.3	758.7	752.1	745.4	739.7	733.9	728.9	723.2	717.4	710.8	705.8
50°	772.7	765.3	759.5	752.1	745.4	739.7	734.7	728.9	724.8	718.2	713.3
52.5°	826.4	816.4	818.1	811.5	811.5	804.9	809.8	802.4	806.5	801.6	809.0
55°	1053.4	1056.7	1077.3	1080.6	1088.9	1088.0	1093.0	1114.5	1106.2	1095.5	1098.8
57.5°	1460.4	1467.8	1478.5	1468.6	1476.0	1477.7	1491.7	1485.9	1481.0	1477.7	1467.0
60°	1813.7	1803.8	1788.1	1769.1	1761.7	1753.4	1739.4	1739.4	1721.2	1715.4	1701.4
62.5°	2020.9	1992.0	1972.2	1941.6	1920.2	1905.3	1880.5	1861.6	1836.8	1817.8	1795.5
65°	2088.6	2039.9	2005.2	1967.2	1933.4	1901.2	1865.7	1838.4	1807.9	1787.3	1751.8
67.5°	1957.3	1907.8	1849.2	1808.7	1773.2	1732.8	1677.5	1643.6	1617.2	1577.6	1560.2
70°	1523.9	1471.9	1398.4	1378.6	1324.1	1261.4	1205.3	1171.4	1132.6	1105.4	1076.5
72.5°	966.7	908.1	875.9	851.9	816.4	764.4	715.7	695.9	662.1	654.6	635.7
75°	454.0	414.4	406.2	400.4	361.6	354.2	339.3	332.7	317.0	308.7	305.4
77.5°	203.1	194.0	179.1	175.0	162.6	150.2	135.4	128.8	120.5	115.6	109.0
80°	92.5	83.4	77.6	73.5	71.8	67.7	64.4	61.9	59.4	59.4	55.3
82.5°	44.6	42.9	41.3	41.3	38.8	38.8	36.3	35.5	34.7	33.8	33.8
85°	12.4	12.4	12.4	13.2	13.2	13.2	13.2	13.2	13.2	14.0	14.0
87.5°	1.7	1.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
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):

	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°	86°
0°	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0
2.5°	927.1	927.1	927.1	928.7	927.9	930.4	930.4	930.4	932.0	932.8	932.0
5°	913.9	913.9	913.9	914.7	914.7	916.3	916.3	918.0	918.0	918.8	918.8
7.5°	892.4	893.2	893.2	894.9	894.0	894.9	894.9	897.3	897.3	898.2	898.2
10°	867.6	868.5	868.5	868.5	869.3	870.1	870.1	871.8	872.6	872.6	874.2
12.5°	844.5	843.7	844.5	843.7	846.2	846.2	847.0	846.2	847.0	847.8	848.6
15°	818.9	818.9	818.1	818.9	818.9	818.1	817.3	818.1	819.7	819.7	819.7
17.5°	793.3	790.9	790.9	790.9	790.0	788.4	790.0	789.2	789.2	790.0	789.2
20°	769.4	768.6	767.7	766.9	766.1	763.6	763.6	763.6	762.8	762.8	762.8
22.5°	754.5	753.7	752.9	752.1	748.8	747.1	746.3	745.4	743.8	743.0	742.1
25°	746.3	744.6	743.0	741.3	738.8	736.4	733.9	733.1	731.4	729.8	727.3
27.5°	743.8	742.1	738.8	737.2	733.9	731.4	728.9	726.5	724.0	721.5	719.0
30°	739.7	737.2	733.9	731.4	728.9	724.8	721.5	719.0	714.9	712.4	709.1
32.5°	733.9	730.6	727.3	724.0	720.7	716.6	712.4	709.1	705.8	702.5	698.4
35°	724.0	719.9	714.9	711.6	707.5	703.3	700.0	694.3	691.8	687.7	683.5
37.5°	710.8	706.6	702.5	698.4	693.4	690.1	685.2	680.2	677.8	675.3	669.5
40°	699.2	694.3	690.1	686.8	681.1	678.6	673.6	668.7	665.4	662.9	657.9
42.5°	688.5	683.5	679.4	674.5	670.3	667.0	662.9	657.9	654.6	653.0	648.9
45°	688.5	682.7	677.8	673.6	669.5	665.4	662.1	657.1	654.6	651.3	648.9
47.5°	700.0	693.4	687.7	681.9	676.1	672.0	667.0	662.1	657.9	655.5	652.2
50°	708.3	701.7	698.4	691.8	688.5	682.7	676.9	674.5	670.3	667.8	667.0
52.5°	809.0	804.9	805.7	789.2	785.9	794.2	780.9	792.5	789.2	779.3	779.3
55°	1117.8	1116.1	1123.5	1102.9	1093.8	1110.3	1116.9	1093.0	1098.8	1098.8	1097.1
57.5°	1477.7	1467.0	1456.2	1458.7	1445.5	1455.4	1443.0	1428.2	1433.9	1429.0	1411.6
60°	1692.3	1685.7	1670.0	1655.2	1641.1	1627.9	1616.4	1603.2	1596.6	1585.0	1572.6
62.5°	1779.0	1761.7	1742.7	1722.9	1700.6	1679.1	1665.9	1648.6	1630.4	1618.9	1605.6
65°	1732.8	1707.2	1686.5	1657.7	1633.7	1607.3	1590.0	1570.1	1553.6	1533.8	1517.3
67.5°	1526.4	1496.7	1442.2	1415.8	1380.3	1339.0	1327.4	1303.5	1294.4	1264.7	1216.0
70°	1039.3	1009.6	976.6	922.9	888.3	852.8	814.0	785.9	781.8	757.8	722.3
72.5°	610.9	590.3	568.8	538.2	512.7	498.6	471.4	443.3	442.5	415.2	401.2
75°	288.9	278.2	256.7	249.3	226.2	224.5	207.2	203.9	207.2	199.0	197.3
77.5°	98.2	95.8	90.8	84.2	79.3	77.6	73.5	71.0	69.3	67.7	66.0
80°	53.7	52.0	51.2	48.7	47.1	46.2	43.8	42.9	42.1	41.3	40.5
82.5°	32.2	33.0	31.4	29.7	29.7	28.1	27.2	26.4	25.6	25.6	25.6
85°	13.2	14.0	13.2	12.4	11.6	12.4	12.4	11.6	10.7	11.6	11.6
87.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
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):

	87°	88°	89°	90°	95°	105°	115°	125°	135°	145°	155°
0°	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0	932.0
2.5°	930.4	929.5	929.5	928.7	927.9	929.5	931.2	933.7	932.0	933.7	934.5
5°	917.2	917.2	917.2	918.0	917.2	919.6	922.9	927.9	928.7	932.0	934.5
7.5°	895.7	895.7	896.5	897.3	896.5	899.8	905.6	911.4	915.5	921.3	926.2
10°	870.9	870.9	870.9	870.9	871.8	875.9	880.0	886.6	893.2	902.3	909.7
12.5°	848.6	846.2	847.0	848.6	847.0	847.0	851.1	856.1	860.2	871.8	885.0
15°	818.9	818.9	817.3	818.1	814.0	813.1	814.8	818.1	821.4	831.3	845.3
17.5°	787.6	787.6	787.6	785.1	781.8	773.5	772.7	772.7	772.7	780.1	796.6
20°	759.5	759.5	757.8	756.2	748.8	734.7	723.2	718.2	716.6	728.9	736.4
22.5°	739.7	738.8	735.5	733.9	722.3	700.0	681.9	667.8	663.7	667.8	670.3
25°	724.0	722.3	719.0	715.7	700.0	669.5	640.6	616.7	605.1	601.8	593.6
27.5°	714.9	712.4	707.5	704.2	683.5	644.7	606.8	575.4	553.9	538.2	523.4
30°	705.0	700.9	695.9	691.0	667.8	624.9	581.2	542.4	504.4	477.2	455.7
32.5°	693.4	689.3	684.4	679.4	653.8	606.8	560.5	512.7	459.8	422.7	390.5
35°	679.4	675.3	670.3	664.5	639.0	591.9	546.5	483.8	420.2	372.3	330.2
37.5°	665.4	661.2	656.3	650.5	624.9	584.5	538.2	456.5	383.9	325.3	269.9
40°	654.6	650.5	645.6	640.6	617.5	581.2	534.1	433.4	351.7	279.0	215.5
42.5°	645.6	641.4	637.3	632.4	612.5	582.8	525.0	413.6	320.3	232.8	169.2
45°	644.7	642.3	637.3	633.2	614.2	590.3	517.6	396.3	288.1	188.2	142.8
47.5°	650.5	647.2	643.9	640.6	625.7	609.2	512.7	378.1	251.8	151.9	136.2
50°	664.5	661.2	659.6	657.9	648.9	634.8	512.7	359.1	209.7	133.7	135.4
52.5°	777.6	768.6	766.1	772.7	747.9	677.8	516.0	336.0	164.3	128.0	136.2
55°	1093.8	1102.9	1079.8	1068.2	1025.3	784.2	518.4	301.3	133.7	127.1	134.6
57.5°	1413.3	1413.3	1405.0	1386.9	1334.0	965.9	530.0	246.0	122.2	125.5	132.9
60°	1569.3	1559.4	1551.2	1540.4	1460.4	1092.2	547.3	181.6	117.2	124.7	131.3
62.5°	1597.4	1581.7	1571.0	1556.9	1450.4	1098.8	554.8	136.2	112.3	124.7	127.1
65°	1504.9	1488.4	1474.4	1451.3	1321.7	994.8	517.6	111.4	109.0	121.4	123.0
67.5°	1219.3	1199.5	1188.8	1177.2	1091.3	873.4	418.5	99.9	104.8	115.6	118.9
70°	697.6	676.1	663.7	666.2	614.2	691.0	334.3	91.6	99.1	109.0	113.9
72.5°	375.6	352.5	345.1	321.1	274.1	348.4	257.6	84.2	91.6	99.1	104.0
75°	185.7	177.5	180.0	168.4	142.8	107.3	165.9	75.1	81.7	89.2	92.5
77.5°	64.4	62.7	61.9	61.1	59.4	57.0	75.9	64.4	70.2	75.9	79.3
80°	39.6	38.8	39.6	38.8	38.0	43.8	48.7	51.2	56.1	63.6	64.4
82.5°	23.9	23.9	23.9	23.9	23.9	30.5	34.7	39.6	43.8	48.7	52.8
85°	11.6	11.6	11.6	11.6	12.4	20.6	23.1	28.9	30.5	34.7	38.0
87.5°	2.5	2.5	2.5	2.5	3.3	10.7	14.0	17.3	18.2	18.2	20.6
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):

	165°	175°	180°
0°	932.0	932.0	932.0
2.5°	933.7	932.0	931.2
5°	936.1	934.5	933.7
7.5°	929.5	930.4	929.5
10°	915.5	918.0	918.8
12.5°	893.2	898.2	901.5
15°	856.1	863.5	861.8
17.5°	806.5	815.6	815.6
20°	744.6	748.8	746.3
22.5°	668.7	670.3	667.8
25°	588.6	588.6	585.3
27.5°	514.3	510.2	507.7
30°	443.3	432.6	429.3
32.5°	368.2	350.0	350.0
35°	292.2	277.4	273.2
37.5°	227.0	210.5	205.6
40°	174.2	161.8	161.0
42.5°	146.9	144.5	145.3
45°	140.3	143.6	143.6
47.5°	141.2	145.3	146.1
50°	142.0	146.1	146.9
52.5°	142.0	144.5	144.5
55°	140.3	140.3	140.3
57.5°	137.0	136.2	137.9
60°	134.6	134.6	134.6
62.5°	130.4	130.4	130.4
65°	123.8	124.7	124.7
67.5°	117.2	117.2	117.2
70°	109.0	109.0	110.6
72.5°	100.7	104.0	105.7
75°	94.9	100.7	103.2
77.5°	83.4	89.2	92.5
80°	68.5	69.3	69.3
82.5°	54.5	52.8	50.4
85°	38.8	36.3	36.3
87.5°	20.6	19.8	20.6
90°	0.0	0.0	0.0

(END OF REPORT)