

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: P142056

Luminaire Tested: **ECM-F04-LED-E1-T4-7050**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P142056
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33685)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ECM-F04-LED-E1-T4-7050
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (28) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9744 lumens
Efficiency: N/A
Efficacy: 95.3 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

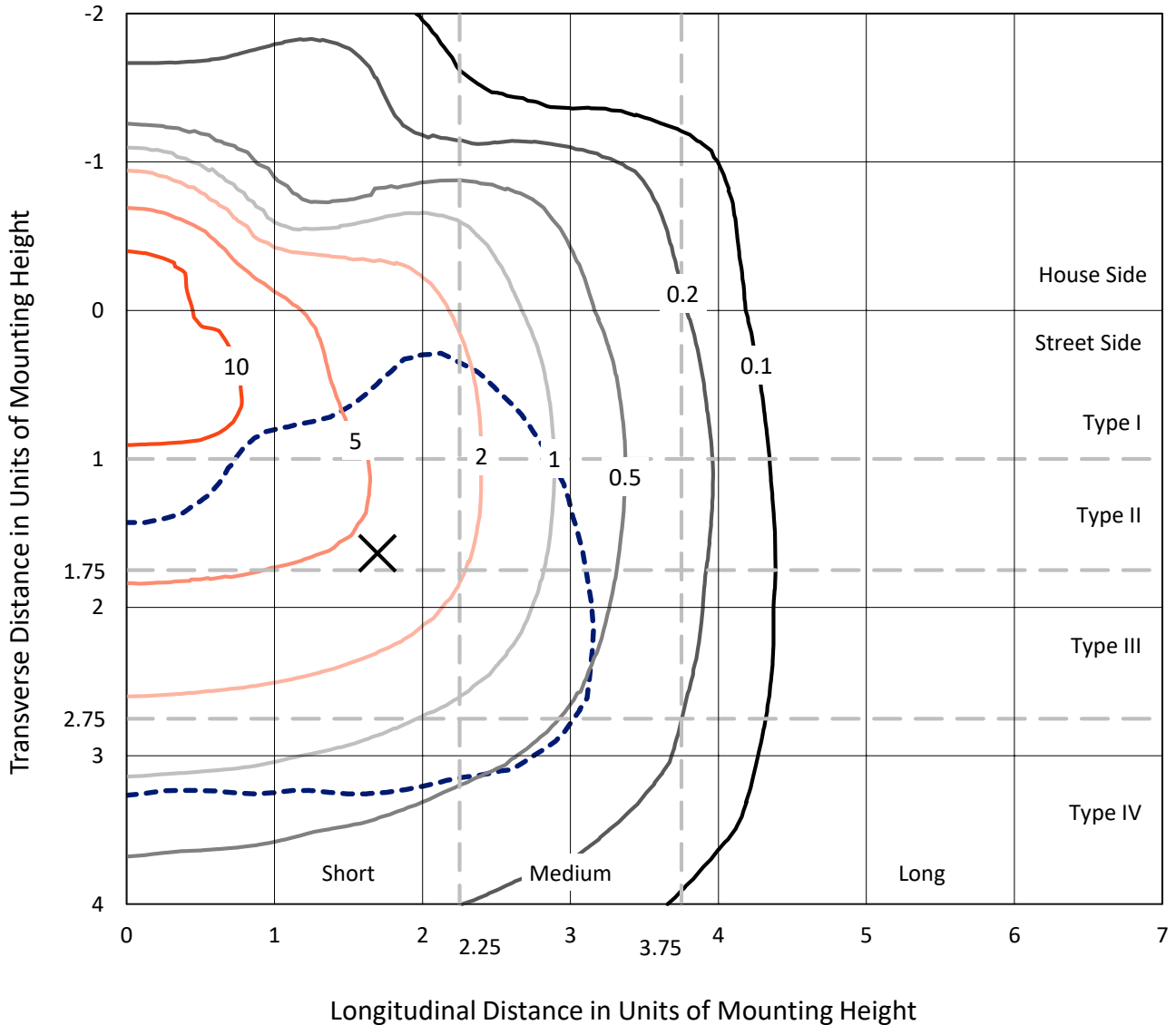
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

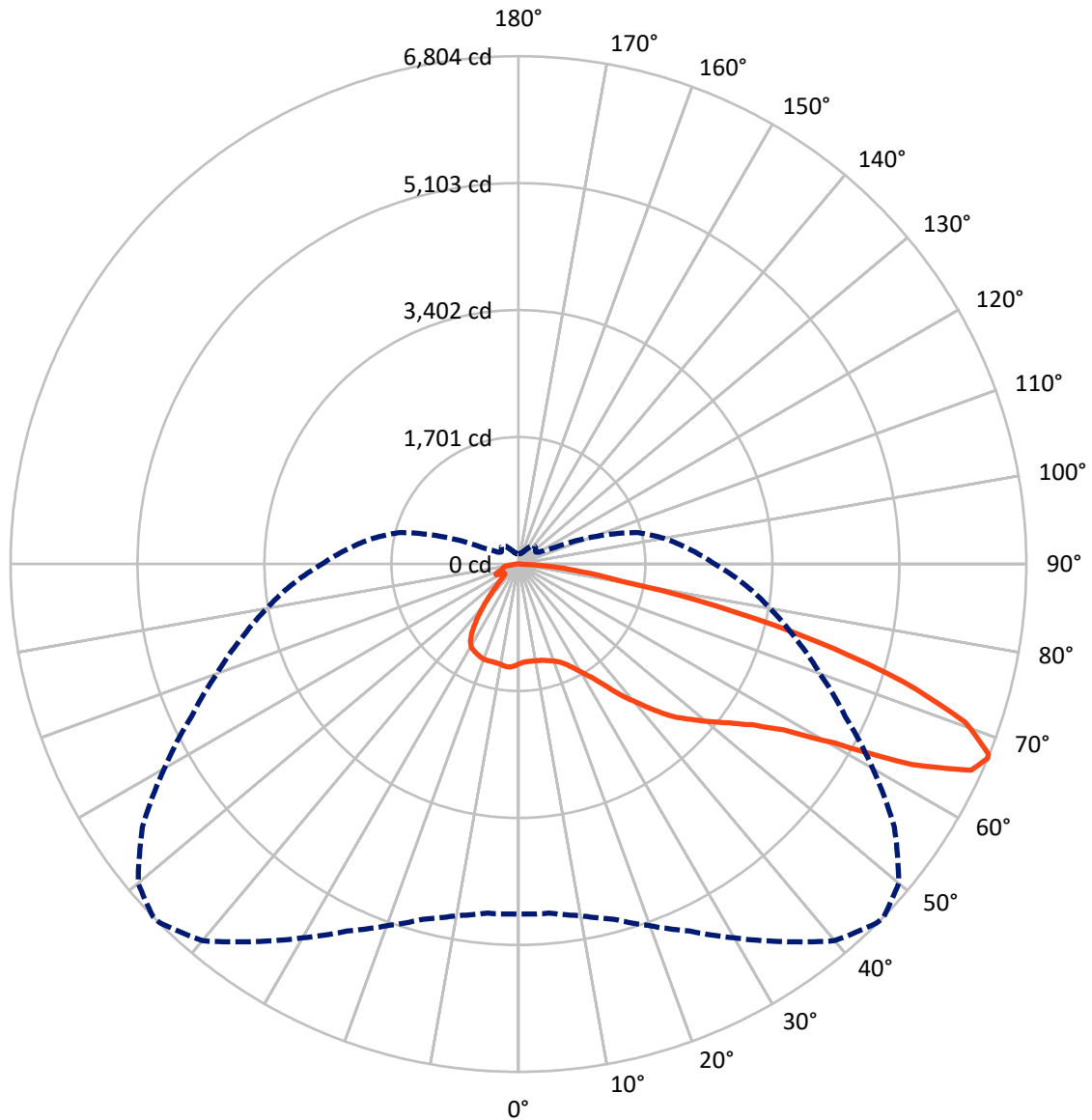
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.5 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 46-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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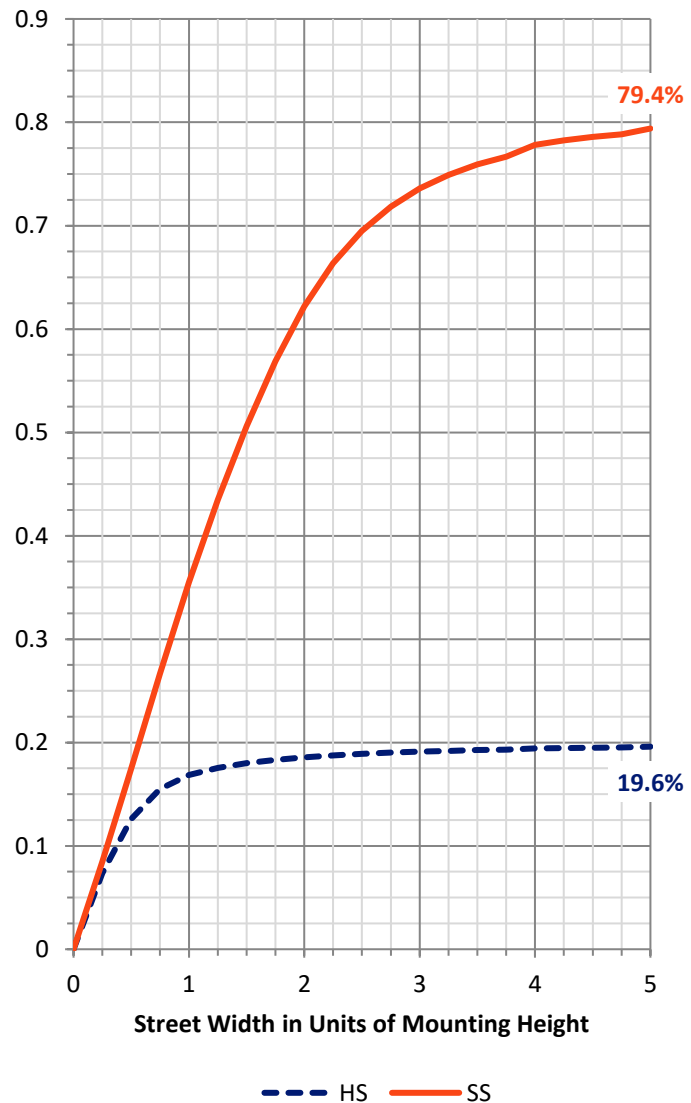
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1936.3	0.0	1936.3
	% Fixture	19.9	0.0	19.9
Street Side	Lumens	7807.6	0.0	7807.6
	% Fixture	80.1	0.0	80.1
Total	Lumens	9744.0	0.0	9744.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.5	1.3
10°-20°	383.5	3.9
20°-30°	644.8	6.6
30°-40°	964.3	9.9
40°-50°	1256.0	12.9
50°-60°	1720.2	17.7
60°-70°	2719.4	27.9
70°-80°	1686.9	17.3
80°-90°	240.4	2.5
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°	9744.0	100.0
0°-180°	9744.0	100.0

Coefficient of Utilization



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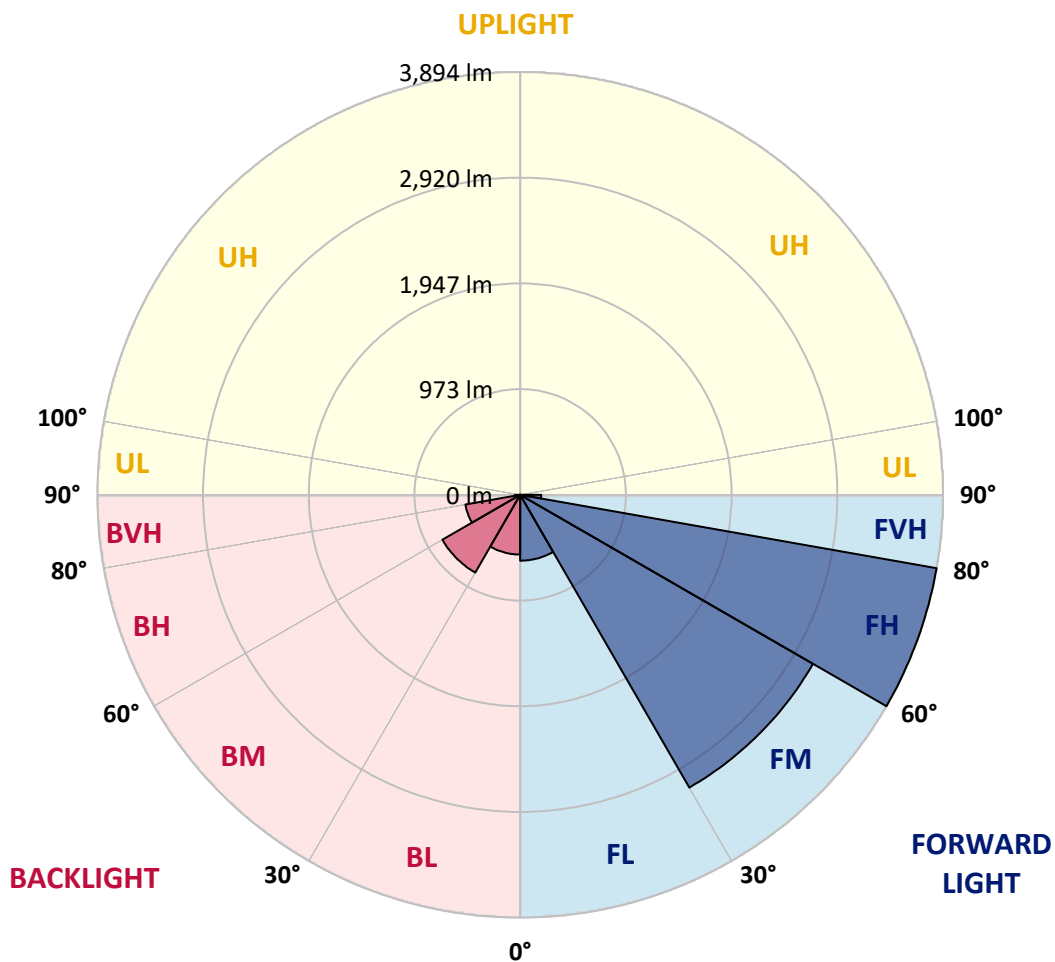
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	606.8	6.2			
FM	(30°-60°)	3113.6	32.0			
FH	(60°-80°)	3893.7	40.0			G2/5000
FVH	(80°-90°)	193.6	2.0			G2/225
BL	(0°-30°)	550.0	5.6	B2/1000		
BM	(30°-60°)	826.9	8.5	B1/1000		
BH	(60°-80°)	512.6	5.3	B2/1000		G2/1000
BVH	(80°-90°)	46.8	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	46°
0°	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0
2.5°	1305.6	1309.0	1307.9	1306.8	1307.9	1309.0	1310.1	1313.5	1314.7	1315.8	1316.9
5°	1281.9	1285.3	1284.2	1286.4	1287.6	1292.1	1295.5	1301.1	1304.5	1309.0	1311.3
7.5°	1275.1	1277.4	1277.4	1279.6	1280.8	1285.3	1290.9	1297.7	1304.5	1311.3	1313.5
10°	1293.2	1294.3	1294.3	1293.2	1294.3	1296.6	1298.8	1304.5	1310.1	1315.8	1318.0
12.5°	1336.1	1332.7	1331.6	1328.2	1329.3	1324.8	1324.8	1323.7	1323.7	1324.8	1324.8
15°	1381.3	1379.0	1376.8	1371.1	1371.1	1364.4	1362.1	1357.6	1346.3	1341.8	1340.6
17.5°	1422.0	1419.7	1415.2	1410.7	1408.4	1399.4	1397.1	1389.2	1375.7	1365.5	1362.1
20°	1470.5	1464.9	1454.7	1452.5	1446.8	1436.6	1433.3	1423.1	1405.0	1390.3	1389.2
22.5°	1545.1	1536.0	1525.9	1518.0	1503.3	1493.1	1484.1	1470.5	1449.1	1432.1	1427.6
25°	1619.6	1616.2	1607.2	1595.9	1585.7	1574.4	1563.1	1542.8	1514.6	1493.1	1488.6
27.5°	1724.6	1716.7	1705.4	1687.4	1681.7	1662.5	1653.5	1636.6	1608.3	1581.2	1576.7
30°	1834.2	1826.3	1808.2	1792.4	1789.0	1768.7	1763.0	1745.0	1720.1	1693.0	1689.6
32.5°	1959.6	1951.7	1938.1	1929.1	1916.6	1905.4	1891.8	1874.9	1843.2	1820.6	1816.1
35°	2119.9	2113.2	2097.4	2104.1	2092.8	2089.5	2081.5	2053.3	2018.3	1991.2	1995.7
37.5°	2246.4	2245.3	2248.7	2245.3	2260.0	2274.7	2274.7	2276.9	2260.0	2230.6	2225.0
40°	2365.0	2363.9	2372.9	2383.1	2422.6	2446.4	2473.5	2483.6	2465.6	2443.0	2435.1
42.5°	2475.7	2473.5	2485.9	2523.2	2571.7	2615.8	2662.1	2701.6	2710.6	2685.8	2680.1
45°	2585.3	2588.7	2604.5	2646.3	2710.6	2768.2	2847.3	2893.6	2923.0	2909.4	2918.5
47.5°	2717.4	2720.8	2737.7	2787.4	2843.9	2916.2	3008.8	3087.9	3122.9	3122.9	3111.6
50°	2874.4	2890.2	2908.3	2942.2	3007.7	3078.8	3191.8	3270.8	3327.3	3325.1	3316.0
52.5°	3083.4	3086.7	3116.1	3143.2	3199.7	3272.0	3373.6	3482.0	3553.2	3546.4	3536.3
55°	3364.6	3351.0	3370.2	3396.2	3457.2	3520.4	3631.1	3756.5	3828.8	3807.3	3800.5
57.5°	3719.2	3707.9	3721.5	3753.1	3829.9	3881.9	3971.1	4086.3	4187.9	4206.0	4190.2
60°	4230.9	4230.9	4258.0	4325.7	4403.7	4481.6	4595.7	4734.6	4839.6	4865.6	4864.5
62.5°	4837.4	4875.8	4881.4	4969.5	5118.6	5253.0	5430.3	5675.4	5832.4	5944.2	5914.8
65°	4934.5	4946.9	4996.6	5133.3	5335.4	5573.8	5849.3	6171.2	6497.6	6659.1	6663.7
67°	4690.5	4695.1	4782.0	4925.5	5157.0	5425.8	5782.7	6174.6	6588.0	6796.9	6803.7
67.5°	4614.9	4605.8	4683.8	4834.0	5087.0	5389.7	5725.1	6137.3	6564.3	6787.9	6791.3
70°	4107.8	4112.3	4173.3	4340.4	4608.1	4891.6	5266.6	5690.1	6139.6	6344.0	6354.2
72.5°	3541.9	3512.5	3567.9	3746.3	3874.0	4150.7	4495.1	4814.8	5210.1	5403.2	5398.7
75°	2701.6	2620.3	2717.4	2821.3	2892.5	3166.9	3381.5	3601.8	3966.6	4113.4	4105.5
77.5°	1455.8	1452.5	1558.6	1639.9	1746.1	1993.5	2182.1	2321.0	2628.2	2700.5	2709.5
80°	790.6	820.0	883.2	973.6	1059.4	1178.0	1287.6	1374.5	1475.0	1428.7	1418.6
82.5°	476.6	525.2	622.3	691.2	725.1	778.2	856.1	905.8	945.3	859.5	842.6
85°	75.7	136.7	351.3	420.1	456.3	481.1	498.1	530.8	484.5	454.0	461.9
87.5°	24.8	28.2	54.2	119.7	105.0	72.3	94.9	137.8	65.5	35.0	33.9
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0
2.5°	1318.0	1319.2	1322.6	1327.1	1329.3	1335.0	1335.0	1339.5	1339.5	1342.9	1346.3
5°	1314.7	1320.3	1324.8	1331.6	1335.0	1342.9	1346.3	1353.1	1356.5	1361.0	1365.5
7.5°	1320.3	1328.2	1333.9	1341.8	1347.4	1355.3	1358.7	1364.4	1367.7	1373.4	1375.7
10°	1324.8	1332.7	1339.5	1348.5	1353.1	1358.7	1362.1	1366.6	1367.7	1371.1	1373.4
12.5°	1330.5	1333.9	1339.5	1347.4	1351.9	1355.3	1358.7	1362.1	1365.5	1365.5	1365.5
15°	1338.4	1335.0	1336.1	1342.9	1347.4	1349.7	1353.1	1355.3	1356.5	1356.5	1354.2
17.5°	1355.3	1346.3	1340.6	1340.6	1342.9	1345.2	1345.2	1341.8	1339.5	1336.1	1331.6
20°	1380.2	1365.5	1354.2	1348.5	1344.0	1338.4	1329.3	1318.0	1307.9	1298.8	1293.2
22.5°	1415.2	1400.5	1386.9	1374.5	1359.8	1340.6	1321.4	1297.7	1278.5	1263.8	1258.2
25°	1480.7	1459.2	1449.1	1429.9	1407.3	1376.8	1347.4	1314.7	1292.1	1271.7	1262.7
27.5°	1568.8	1551.8	1529.3	1519.1	1489.7	1454.7	1422.0	1382.4	1350.8	1326.0	1309.0
30°	1680.6	1669.3	1650.1	1633.2	1604.9	1573.3	1524.7	1480.7	1425.3	1381.3	1356.5
32.5°	1809.4	1792.4	1775.5	1754.0	1733.7	1691.9	1646.7	1580.1	1503.3	1427.6	1381.3
35°	1970.9	1953.9	1942.6	1908.7	1874.9	1829.7	1768.7	1689.6	1582.3	1480.7	1401.6
37.5°	2193.4	2157.2	2101.9	2053.3	1992.3	1923.4	1854.5	1759.7	1639.9	1507.8	1399.4
40°	2386.5	2333.4	2271.3	2187.7	2101.9	2011.5	1930.2	1827.4	1687.4	1530.4	1383.6
42.5°	2637.2	2545.7	2440.7	2330.0	2212.6	2104.1	2003.6	1886.2	1722.4	1531.5	1346.3
45°	2863.1	2750.2	2611.3	2461.0	2317.6	2185.5	2070.3	1940.4	1751.8	1527.0	1303.4
47.5°	3064.2	2932.0	2762.6	2581.9	2412.5	2263.4	2136.9	2000.2	1790.2	1541.7	1287.6
50°	3258.4	3107.1	2916.2	2697.1	2508.5	2345.8	2213.7	2066.9	1854.5	1591.4	1312.4
52.5°	3466.2	3282.1	3066.4	2819.1	2613.5	2445.2	2297.3	2147.1	1931.3	1658.0	1357.6
55°	3720.4	3511.4	3265.2	2991.9	2755.8	2568.3	2401.2	2243.1	2022.8	1740.5	1410.7
57.5°	4059.2	3848.0	3564.5	3249.4	3002.0	2779.5	2578.5	2400.0	2161.7	1854.5	1489.7
60°	4712.0	4451.1	4073.9	3731.7	3464.0	3201.9	2959.1	2715.2	2428.3	2084.9	1693.0
62.5°	5760.1	5396.4	4928.9	4452.2	4090.8	3744.1	3423.3	3105.9	2747.9	2362.8	1934.7
65°	6485.2	6035.7	5448.4	4850.9	4361.9	3938.3	3555.5	3178.2	2779.5	2412.5	2039.8
67°	6651.2	6148.6	5480.0	4831.7	4299.8	3840.1	3423.3	3030.3	2629.3	2296.1	1977.6
67.5°	6644.5	6143.0	5455.2	4791.1	4258.0	3805.1	3384.9	2971.5	2577.4	2251.0	1947.1
70°	6242.4	5738.7	5047.4	4386.7	3872.8	3422.2	2998.6	2638.4	2236.3	1972.0	1743.8
72.5°	5289.1	4850.9	4293.0	3698.9	3258.4	2855.2	2516.4	2162.9	1813.9	1637.7	1458.1
75°	4021.9	3633.4	3121.8	2686.9	2351.5	2071.4	1731.4	1498.8	1253.7	1132.8	1068.4
77.5°	2657.6	2211.4	1857.9	1443.4	1197.2	977.0	770.3	611.0	510.5	536.5	586.2
80°	1406.1	1115.9	825.6	639.3	493.6	384.0	304.9	228.1	166.0	194.3	244.0
82.5°	765.8	652.8	482.3	384.0	314.0	259.8	199.9	140.0	103.9	115.2	166.0
85°	437.1	384.0	298.2	232.7	203.3	166.0	114.1	76.8	74.5	80.2	102.8
87.5°	72.3	97.1	79.1	54.2	61.0	59.9	53.1	40.7	30.5	42.9	55.3
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0	1335.0
2.5°	1348.5	1351.9	1356.5	1357.6	1356.5	1359.8	1365.5	1370.0	1366.6	1364.4	1370.0
5°	1370.0	1372.3	1377.9	1377.9	1379.0	1381.3	1384.7	1388.1	1383.6	1383.6	1385.8
7.5°	1379.0	1379.0	1384.7	1382.4	1382.4	1381.3	1384.7	1385.8	1379.0	1377.9	1379.0
10°	1373.4	1373.4	1375.7	1371.1	1370.0	1368.9	1368.9	1370.0	1363.2	1361.0	1364.4
12.5°	1365.5	1365.5	1363.2	1361.0	1358.7	1356.5	1358.7	1359.8	1355.3	1355.3	1356.5
15°	1351.9	1348.5	1347.4	1347.4	1348.5	1349.7	1354.2	1357.6	1354.2	1351.9	1351.9
17.5°	1329.3	1327.1	1330.5	1337.3	1345.2	1350.8	1357.6	1359.8	1351.9	1342.9	1336.1
20°	1295.5	1301.1	1313.5	1332.7	1349.7	1358.7	1358.7	1350.8	1332.7	1314.7	1305.6
22.5°	1260.4	1276.3	1303.4	1332.7	1353.1	1356.5	1344.0	1327.1	1302.2	1283.0	1266.1
25°	1265.0	1284.2	1311.3	1336.1	1349.7	1344.0	1321.4	1300.0	1270.6	1250.3	1225.4
27.5°	1312.4	1330.5	1344.0	1351.9	1347.4	1329.3	1303.4	1274.0	1241.2	1213.0	1183.6
30°	1350.8	1358.7	1357.6	1350.8	1333.9	1305.6	1275.1	1240.1	1200.6	1170.1	1131.7
32.5°	1357.6	1342.9	1320.3	1295.5	1272.9	1241.2	1206.2	1165.6	1121.5	1082.0	1043.6
35°	1345.2	1289.8	1240.1	1190.4	1156.5	1117.0	1086.5	1039.1	990.5	956.6	928.4
37.5°	1298.8	1202.8	1123.8	1053.8	1004.1	958.9	912.6	866.3	825.6	809.8	801.9
40°	1240.1	1095.6	974.7	877.6	824.5	780.4	733.0	695.7	676.5	661.8	656.2
42.5°	1154.3	973.6	823.4	719.4	651.7	611.0	564.7	544.4	535.4	538.7	534.2
45°	1074.1	845.9	657.3	542.1	495.8	457.4	434.8	425.8	421.3	419.0	422.4
47.5°	1017.6	747.7	529.7	412.2	373.8	346.7	337.7	334.3	333.2	328.7	327.5
50°	1004.1	690.1	433.7	320.8	291.4	276.7	272.2	268.8	266.5	263.2	255.3
52.5°	1019.9	674.3	386.3	275.6	250.7	239.4	236.1	230.4	228.1	219.1	208.9
55°	1047.0	679.9	371.6	263.2	238.3	225.9	221.4	219.1	211.2	201.0	188.6
57.5°	1103.5	714.9	378.4	266.5	240.6	229.3	227.0	224.8	214.6	199.9	184.1
60°	1267.2	816.6	413.4	290.3	258.6	250.7	251.9	247.3	232.7	213.5	189.7
62.5°	1520.2	974.7	477.8	319.6	288.0	288.0	294.8	291.4	268.8	237.2	203.3
65°	1651.2	1069.6	504.9	328.7	297.0	311.7	333.2	329.8	297.0	249.6	204.4
67°	1630.9	1051.5	489.0	315.1	280.1	299.3	320.8	321.9	285.7	238.3	195.4
67.5°	1611.7	1039.1	481.1	309.5	275.6	294.8	315.1	311.7	281.2	233.8	193.1
70°	1447.9	912.6	429.2	289.1	255.3	260.9	266.5	262.0	238.3	206.7	178.5
72.5°	1250.3	757.9	378.4	276.7	244.0	234.9	234.9	227.0	211.2	189.7	169.4
75°	953.2	589.6	332.1	263.2	230.4	216.9	214.6	208.9	195.4	179.6	161.5
77.5°	581.7	422.4	288.0	242.8	213.5	202.2	203.3	199.9	186.4	171.7	154.7
80°	291.4	273.3	241.7	211.2	193.1	181.8	183.0	176.2	164.9	153.6	140.0
82.5°	178.5	188.6	169.4	160.4	149.1	136.7	106.2	124.2	120.8	110.7	105.0
85°	118.6	117.5	106.2	93.7	85.8	74.5	66.6	67.8	74.5	76.8	76.8
87.5°	57.6	55.3	50.8	47.4	45.2	37.3	35.0	39.5	39.5	41.8	40.7
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):

	160°	165°	170°	175°	180°
0°	1335.0	1335.0	1335.0	1335.0	1335.0
2.5°	1371.1	1373.4	1372.3	1375.7	1372.3
5°	1386.9	1386.9	1388.1	1389.2	1388.1
7.5°	1379.0	1377.9	1380.2	1382.4	1381.3
10°	1364.4	1365.5	1367.7	1371.1	1371.1
12.5°	1358.7	1359.8	1364.4	1367.7	1367.7
15°	1354.2	1355.3	1357.6	1362.1	1358.7
17.5°	1333.9	1329.3	1329.3	1332.7	1329.3
20°	1297.7	1290.9	1290.9	1289.8	1288.7
22.5°	1254.8	1237.9	1233.3	1227.7	1228.8
25°	1201.7	1179.1	1166.7	1159.9	1157.7
27.5°	1158.8	1132.8	1120.4	1110.2	1106.8
30°	1104.6	1075.2	1065.1	1059.4	1057.2
32.5°	1025.5	999.5	986.0	982.6	975.8
35°	905.8	894.5	888.9	881.0	882.1
37.5°	786.1	782.7	769.1	773.7	769.1
40°	657.3	656.2	658.5	655.1	663.0
42.5°	536.5	533.1	538.7	535.4	538.7
45°	415.6	422.4	430.3	426.9	431.4
47.5°	318.5	319.6	317.4	319.6	321.9
50°	245.1	242.8	240.6	236.1	238.3
52.5°	202.2	194.3	188.6	185.2	184.1
55°	178.5	170.5	166.0	161.5	161.5
57.5°	171.7	161.5	154.7	151.3	150.2
60°	172.8	159.3	150.2	144.6	143.4
62.5°	177.3	159.3	146.8	141.2	138.9
65°	176.2	157.0	144.6	138.9	136.7
67°	170.5	153.6	143.4	137.8	136.7
67.5°	168.3	152.5	143.4	137.8	135.5
70°	160.4	149.1	141.2	135.5	133.3
72.5°	153.6	144.6	135.5	131.0	128.8
75°	146.8	137.8	129.9	125.4	124.2
77.5°	140.0	129.9	124.2	118.6	114.1
80°	127.6	116.3	108.4	99.4	97.1
82.5°	105.0	96.0	88.1	80.2	79.1
85°	77.9	74.5	67.8	61.0	61.0
87.5°	42.9	47.4	41.8	38.4	36.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)