

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: P142055

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

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P142055
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
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (28) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9496 lumens
Efficiency: N/A
Efficacy: 92.9 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

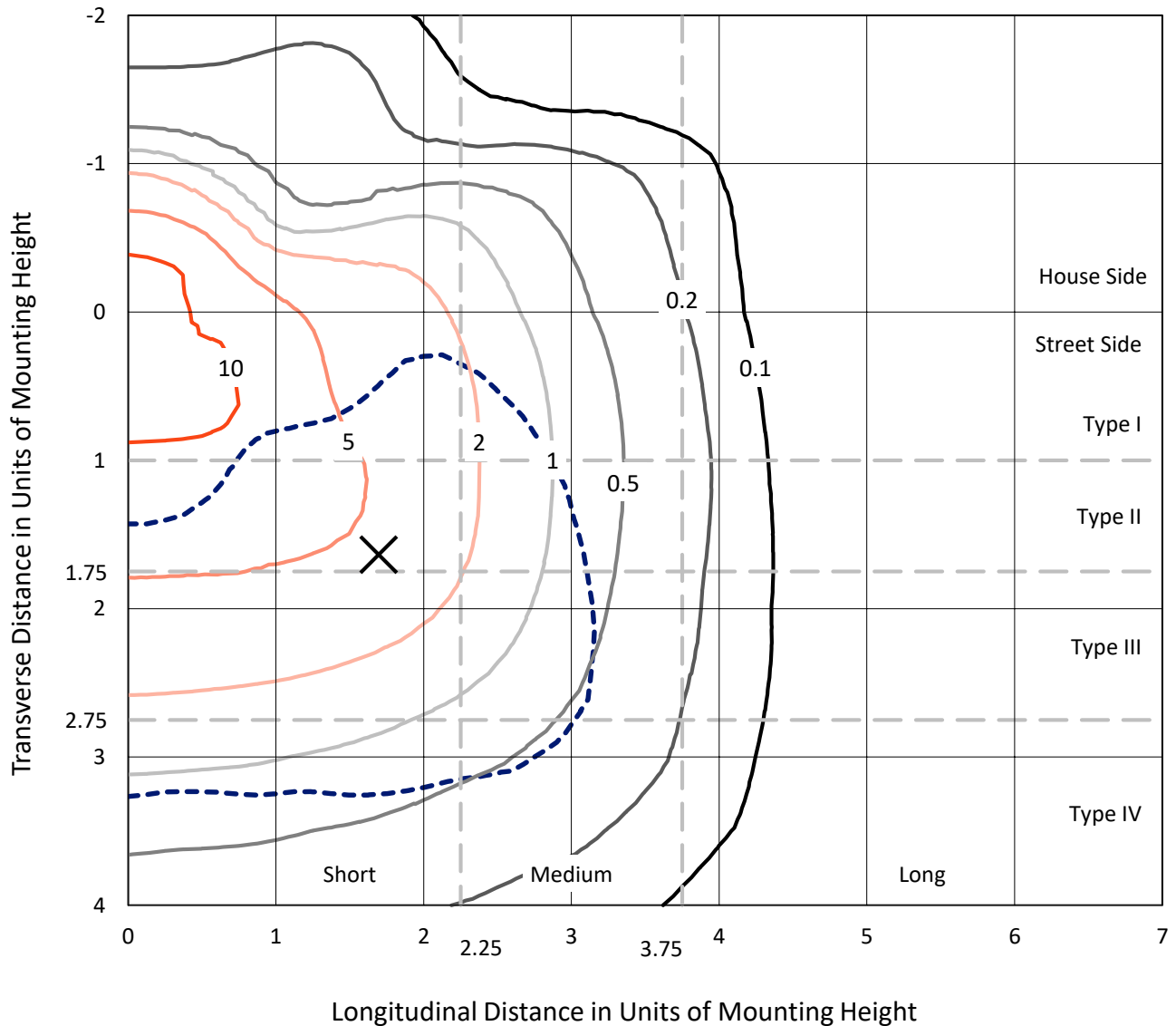
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

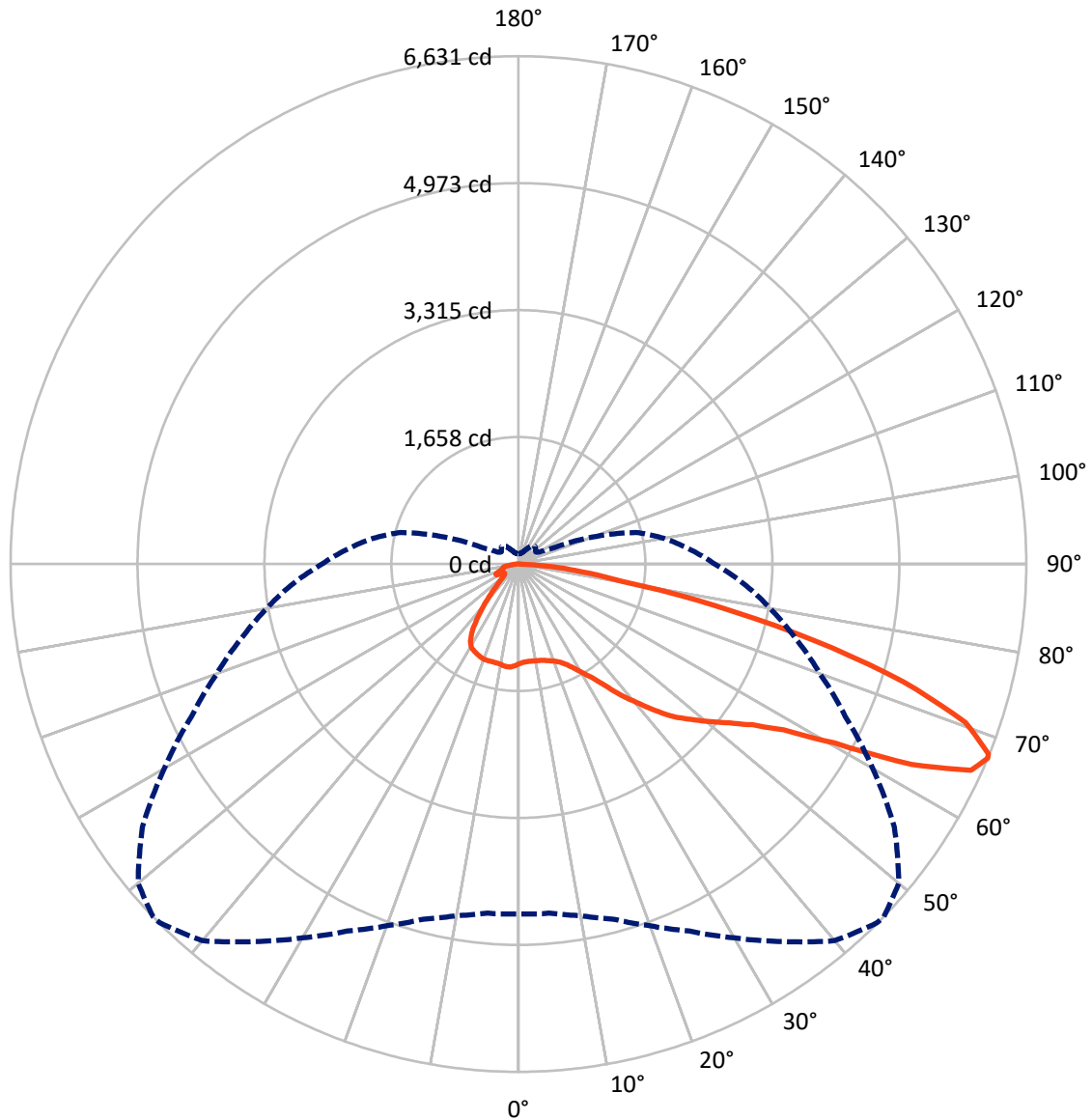
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.2 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	1887.1	0.0	1887.1
	% Fixture	19.9	0.0	19.9
Street Side	Lumens	7609.0	0.0	7609.0
	% Fixture	80.1	0.0	80.1
Total	Lumens	9496.0	0.0	9496.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.2	1.3
10°-20°	373.8	3.9
20°-30°	628.4	6.6
30°-40°	939.8	9.9
40°-50°	1224.1	12.9
50°-60°	1676.4	17.7
60°-70°	2650.2	27.9
70°-80°	1644.0	17.3
80°-90°	234.3	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°	9496.0	100.0
0°-180°	9496.0	100.0



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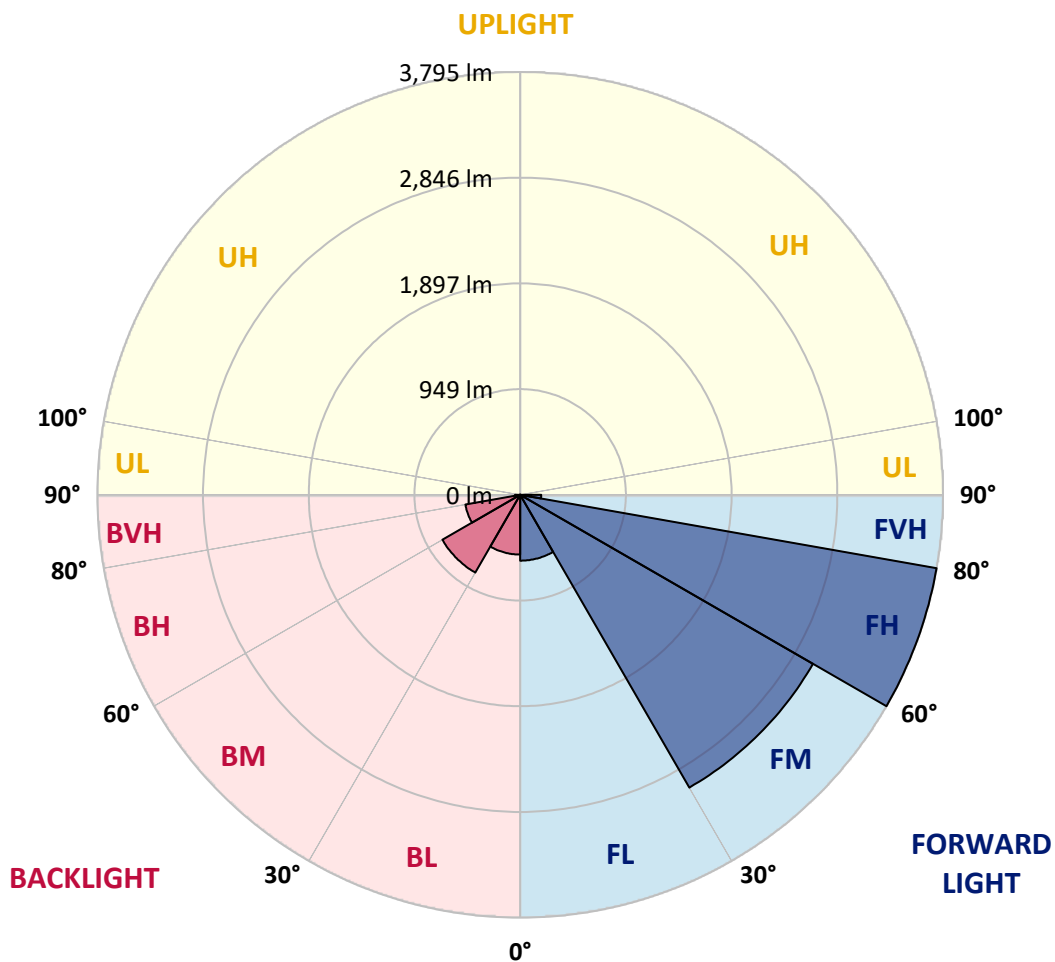
CATALOG NUMBER: ECM-F04-LED-E1-T4

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	591.3	6.2			
FM	(30°-60°)	3034.4	32.0			
FH	(60°-80°)	3794.6	40.0			G2/5000
FVH	(80°-90°)	188.7	2.0			G2/225
BL	(0°-30°)	536.0	5.6	B2/1000		
BM	(30°-60°)	805.9	8.5	B1/1000		
BH	(60°-80°)	499.6	5.3	B1/500		G1/500
BVH	(80°-90°)	45.6	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°	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0
2.5°	1272.4	1275.7	1274.6	1273.5	1274.6	1275.7	1276.8	1280.1	1281.2	1282.3	1283.4
5°	1249.3	1252.6	1251.5	1253.7	1254.8	1259.2	1262.5	1268.0	1271.3	1275.7	1277.9
7.5°	1242.7	1244.9	1244.9	1247.1	1248.2	1252.6	1258.1	1264.7	1271.3	1277.9	1280.1
10°	1260.3	1261.4	1261.4	1260.3	1261.4	1263.6	1265.8	1271.3	1276.8	1282.3	1284.5
12.5°	1302.1	1298.8	1297.7	1294.4	1295.5	1291.1	1291.1	1290.0	1290.0	1291.1	1291.1
15°	1346.2	1344.0	1341.8	1336.2	1336.2	1329.6	1327.4	1323.0	1312.0	1307.6	1306.5
17.5°	1385.8	1383.6	1379.2	1374.8	1372.6	1363.8	1361.6	1353.9	1340.7	1330.7	1327.4
20°	1433.1	1427.6	1417.7	1415.5	1410.0	1400.1	1396.8	1386.9	1369.3	1355.0	1353.9
22.5°	1505.8	1497.0	1487.0	1479.3	1465.0	1455.1	1446.3	1433.1	1412.2	1395.7	1391.3
25°	1578.4	1575.1	1566.3	1555.3	1545.4	1534.4	1523.4	1503.6	1476.0	1455.1	1450.7
27.5°	1680.8	1673.1	1662.1	1644.4	1638.9	1620.2	1611.4	1594.9	1567.4	1541.0	1536.6
30°	1787.5	1779.8	1762.2	1746.8	1743.5	1723.7	1718.2	1700.6	1676.4	1649.9	1646.6
32.5°	1909.7	1902.0	1888.8	1880.0	1867.9	1856.9	1843.7	1827.2	1796.3	1774.3	1769.9
35°	2066.0	2059.4	2044.0	2050.6	2039.6	2036.3	2028.6	2001.1	1967.0	1940.5	1944.9
37.5°	2189.3	2188.2	2191.5	2188.2	2202.5	2216.8	2216.8	2219.0	2202.5	2173.9	2168.4
40°	2304.9	2303.8	2312.6	2322.5	2361.0	2384.1	2410.5	2420.4	2402.8	2380.8	2373.1
42.5°	2412.7	2410.5	2422.6	2459.0	2506.3	2549.2	2594.3	2632.9	2641.7	2617.5	2612.0
45°	2519.5	2522.8	2538.2	2578.9	2641.7	2697.8	2774.9	2820.0	2848.6	2835.4	2844.2
47.5°	2648.3	2651.6	2668.1	2716.5	2771.6	2842.0	2932.3	3009.3	3043.4	3043.4	3032.4
50°	2801.3	2816.7	2834.3	2867.3	2931.2	3000.5	3110.6	3187.6	3242.7	3240.5	3231.7
52.5°	3004.9	3008.2	3036.8	3063.2	3118.3	3188.7	3287.8	3393.5	3462.8	3456.2	3446.3
55°	3279.0	3265.8	3284.5	3309.8	3369.2	3430.9	3538.8	3660.9	3731.4	3710.5	3703.9
57.5°	3624.6	3613.6	3626.8	3657.6	3732.5	3783.1	3870.1	3982.3	4081.4	4099.0	4083.6
60°	4123.2	4123.2	4149.6	4215.7	4291.6	4367.6	4478.7	4614.1	4716.5	4741.8	4740.7
62.5°	4714.3	4751.7	4757.2	4843.1	4988.4	5119.4	5292.2	5531.0	5684.0	5793.0	5764.4
65°	4809.0	4821.1	4869.5	5002.7	5199.7	5432.0	5700.5	6014.2	6332.3	6489.7	6494.1
67°	4571.2	4575.6	4660.4	4800.2	5025.8	5287.8	5635.6	6017.5	6420.4	6624.0	6630.6
67.5°	4497.5	4488.7	4564.6	4711.0	4957.6	5252.5	5579.4	5981.2	6397.3	6615.2	6618.5
70°	4003.2	4007.6	4067.1	4230.0	4490.9	4767.1	5132.6	5545.3	5983.4	6182.6	6192.5
72.5°	3451.8	3423.2	3477.1	3651.0	3775.4	4045.1	4380.8	4692.3	5077.5	5265.7	5261.3
75°	2632.9	2553.6	2648.3	2749.5	2818.9	3086.4	3295.5	3510.1	3865.7	4008.7	4001.0
77.5°	1418.8	1415.5	1519.0	1598.2	1701.7	1942.7	2126.6	2261.9	2561.3	2631.8	2640.6
80°	770.5	799.1	860.7	948.8	1032.5	1148.0	1254.8	1339.6	1437.5	1392.4	1382.5
82.5°	464.5	511.8	606.5	673.6	706.6	758.4	834.3	882.8	921.3	837.6	821.1
85°	73.7	133.2	342.3	409.5	444.7	468.9	485.4	517.3	472.2	442.5	450.2
87.5°	24.2	27.5	52.8	116.7	102.4	70.4	92.5	134.3	63.8	34.1	33.0
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0
2.5°	1284.5	1285.6	1288.9	1293.3	1295.5	1301.0	1301.0	1305.4	1305.4	1308.7	1312.0
5°	1281.2	1286.7	1291.1	1297.7	1301.0	1308.7	1312.0	1318.6	1321.9	1326.3	1330.7
7.5°	1286.7	1294.4	1299.9	1307.6	1313.1	1320.8	1324.1	1329.6	1332.9	1338.5	1340.7
10°	1291.1	1298.8	1305.4	1314.2	1318.6	1324.1	1327.4	1331.8	1332.9	1336.2	1338.5
12.5°	1296.6	1299.9	1305.4	1313.1	1317.5	1320.8	1324.1	1327.4	1330.7	1330.7	1330.7
15°	1304.3	1301.0	1302.1	1308.7	1313.1	1315.3	1318.6	1320.8	1321.9	1321.9	1319.7
17.5°	1320.8	1312.0	1306.5	1306.5	1308.7	1310.9	1310.9	1307.6	1305.4	1302.1	1297.7
20°	1345.1	1330.7	1319.7	1314.2	1309.8	1304.3	1295.5	1284.5	1274.6	1265.8	1260.3
22.5°	1379.2	1364.9	1351.7	1339.6	1325.2	1306.5	1287.8	1264.7	1246.0	1231.7	1226.2
25°	1443.0	1422.1	1412.2	1393.5	1371.5	1341.8	1313.1	1281.2	1259.2	1239.4	1230.6
27.5°	1528.9	1512.4	1490.3	1480.4	1451.8	1417.7	1385.8	1347.3	1316.4	1292.2	1275.7
30°	1637.8	1626.8	1608.1	1591.6	1564.1	1533.3	1485.9	1443.0	1389.1	1346.2	1321.9
32.5°	1763.3	1746.8	1730.3	1709.4	1689.6	1648.8	1604.8	1539.9	1465.0	1391.3	1346.2
35°	1920.7	1904.2	1893.2	1860.2	1827.2	1783.1	1723.7	1646.6	1542.1	1443.0	1366.0
37.5°	2137.6	2102.3	2048.4	2001.1	1941.6	1874.5	1807.3	1714.9	1598.2	1469.4	1363.8
40°	2325.8	2274.0	2213.5	2132.1	2048.4	1960.3	1881.1	1780.9	1644.4	1491.4	1348.4
42.5°	2570.1	2481.0	2378.6	2270.7	2156.3	2050.6	1952.6	1838.2	1678.6	1492.5	1312.0
45°	2790.3	2680.2	2544.8	2398.4	2258.6	2129.9	2017.6	1891.0	1707.2	1488.1	1270.2
47.5°	2986.2	2857.4	2692.3	2516.2	2351.1	2205.8	2082.5	1949.3	1744.6	1502.5	1254.8
50°	3175.5	3028.0	2842.0	2628.5	2444.7	2286.2	2157.4	2014.3	1807.3	1550.9	1279.0
52.5°	3378.0	3198.6	2988.4	2747.3	2547.0	2383.0	2238.8	2092.4	1882.2	1615.8	1323.0
55°	3625.7	3422.1	3182.1	2915.8	2685.7	2503.0	2340.1	2186.0	1971.4	1696.2	1374.8
57.5°	3955.9	3750.1	3473.8	3166.7	2925.7	2708.8	2512.9	2339.0	2106.7	1807.3	1451.8
60°	4592.1	4337.9	3970.2	3636.7	3375.8	3120.5	2883.8	2646.1	2366.5	2031.9	1649.9
62.5°	5613.6	5259.1	4803.5	4339.0	3986.7	3648.8	3336.2	3026.9	2678.0	2302.7	1885.5
65°	6320.2	5882.1	5309.8	4727.5	4250.9	3838.1	3465.0	3097.4	2708.8	2351.1	1987.9
67°	6482.0	5992.2	5340.6	4708.8	4190.4	3742.4	3336.2	2953.2	2562.4	2237.7	1927.3
67.5°	6475.4	5986.7	5316.4	4669.2	4149.6	3708.3	3298.8	2895.9	2511.8	2193.7	1897.6
70°	6083.6	5592.7	4919.0	4275.1	3774.3	3335.1	2922.4	2571.2	2179.4	1921.8	1699.5
72.5°	5154.6	4727.5	4183.8	3604.8	3175.5	2782.6	2452.4	2107.8	1767.7	1596.0	1421.0
75°	3919.6	3541.0	3042.3	2618.6	2291.7	2018.7	1687.4	1460.6	1221.8	1104.0	1041.3
77.5°	2589.9	2155.2	1810.7	1406.7	1166.7	952.1	750.7	595.5	497.5	522.8	571.3
80°	1370.4	1087.5	804.6	623.0	481.0	374.2	297.2	222.3	161.8	189.3	237.8
82.5°	746.3	636.2	470.0	374.2	306.0	253.2	194.8	136.5	101.3	112.3	161.8
85°	426.0	374.2	290.6	226.7	198.1	161.8	111.2	74.8	72.6	78.1	100.2
87.5°	70.4	94.7	77.0	52.8	59.4	58.3	51.7	39.6	29.7	41.8	53.9
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0	1301.0
2.5°	1314.2	1317.5	1321.9	1323.0	1321.9	1325.2	1330.7	1335.1	1331.8	1329.6	1335.1
5°	1335.1	1337.4	1342.9	1342.9	1344.0	1346.2	1349.5	1352.8	1348.4	1348.4	1350.6
7.5°	1344.0	1344.0	1349.5	1347.3	1347.3	1346.2	1349.5	1350.6	1344.0	1342.9	1344.0
10°	1338.5	1338.5	1340.7	1336.2	1335.1	1334.0	1334.0	1335.1	1328.5	1326.3	1329.6
12.5°	1330.7	1330.7	1328.5	1326.3	1324.1	1321.9	1324.1	1325.2	1320.8	1320.8	1321.9
15°	1317.5	1314.2	1313.1	1313.1	1314.2	1315.3	1319.7	1323.0	1319.7	1317.5	1317.5
17.5°	1295.5	1293.3	1296.6	1303.2	1310.9	1316.4	1323.0	1325.2	1317.5	1308.7	1302.1
20°	1262.5	1268.0	1280.1	1298.8	1315.3	1324.1	1324.1	1316.4	1298.8	1281.2	1272.4
22.5°	1228.4	1243.8	1270.2	1298.8	1318.6	1321.9	1309.8	1293.3	1269.1	1250.4	1233.9
25°	1232.8	1251.5	1277.9	1302.1	1315.3	1309.8	1287.8	1266.9	1238.3	1218.5	1194.3
27.5°	1279.0	1296.6	1309.8	1317.5	1313.1	1295.5	1270.2	1241.6	1209.7	1182.2	1153.5
30°	1316.4	1324.1	1323.0	1316.4	1299.9	1272.4	1242.7	1208.6	1170.0	1140.3	1102.9
32.5°	1323.0	1308.7	1286.7	1262.5	1240.5	1209.7	1175.5	1135.9	1093.0	1054.5	1017.0
35°	1310.9	1257.0	1208.6	1160.1	1127.1	1088.6	1058.9	1012.6	965.3	932.3	904.8
37.5°	1265.8	1172.2	1095.2	1027.0	978.5	934.5	889.4	844.2	804.6	789.2	781.5
40°	1208.6	1067.7	949.9	855.2	803.5	760.6	714.4	678.0	659.3	645.0	639.5
42.5°	1124.9	948.8	802.4	701.1	635.1	595.5	550.3	530.5	521.7	525.0	520.6
45°	1046.8	824.4	640.6	528.3	483.2	445.8	423.8	415.0	410.6	408.4	411.7
47.5°	991.7	728.7	516.2	401.8	364.3	337.9	329.1	325.8	324.7	320.3	319.2
50°	978.5	672.5	422.7	312.6	284.0	269.7	265.3	262.0	259.8	256.5	248.8
52.5°	993.9	657.1	376.4	268.6	244.4	233.3	230.0	224.5	222.3	213.5	203.6
55°	1020.3	662.6	362.1	256.5	232.2	220.1	215.7	213.5	205.8	195.9	183.8
57.5°	1075.4	696.7	368.7	259.8	234.4	223.4	221.2	219.0	209.1	194.8	179.4
60°	1235.0	795.8	402.9	282.9	252.1	244.4	245.5	241.1	226.7	208.0	184.9
62.5°	1481.5	949.9	465.6	311.5	280.7	280.7	287.3	284.0	262.0	231.1	198.1
65°	1609.2	1042.4	492.0	320.3	289.5	303.8	324.7	321.4	289.5	243.3	199.2
67°	1589.4	1024.8	476.6	307.1	273.0	291.7	312.6	313.7	278.5	232.2	190.4
67.5°	1570.7	1012.6	468.9	301.6	268.6	287.3	307.1	303.8	274.1	227.8	188.2
70°	1411.1	889.4	418.3	281.8	248.8	254.3	259.8	255.4	232.2	201.4	173.9
72.5°	1218.5	738.6	368.7	269.7	237.8	228.9	228.9	221.2	205.8	184.9	165.1
75°	929.0	574.6	323.6	256.5	224.5	211.3	209.1	203.6	190.4	175.0	157.4
77.5°	566.9	411.7	280.7	236.7	208.0	197.0	198.1	194.8	181.6	167.3	150.8
80°	284.0	266.4	235.5	205.8	188.2	177.2	178.3	171.7	160.7	149.7	136.5
82.5°	173.9	183.8	165.1	156.3	145.3	133.2	103.5	121.1	117.8	107.9	102.4
85°	115.6	114.5	103.5	91.4	83.7	72.6	64.9	66.0	72.6	74.8	74.8
87.5°	56.1	53.9	49.5	46.2	44.0	36.3	34.1	38.5	38.5	40.7	39.6
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):

	160°	165°	170°	175°	180°
0°	1301.0	1301.0	1301.0	1301.0	1301.0
2.5°	1336.2	1338.5	1337.4	1340.7	1337.4
5°	1351.7	1351.7	1352.8	1353.9	1352.8
7.5°	1344.0	1342.9	1345.1	1347.3	1346.2
10°	1329.6	1330.7	1332.9	1336.2	1336.2
12.5°	1324.1	1325.2	1329.6	1332.9	1332.9
15°	1319.7	1320.8	1323.0	1327.4	1324.1
17.5°	1299.9	1295.5	1295.5	1298.8	1295.5
20°	1264.7	1258.1	1258.1	1257.0	1255.9
22.5°	1222.9	1206.4	1202.0	1196.5	1197.6
25°	1171.1	1149.1	1137.0	1130.4	1128.2
27.5°	1129.3	1104.0	1091.9	1082.0	1078.7
30°	1076.5	1047.9	1038.0	1032.5	1030.3
32.5°	999.4	974.1	960.9	957.6	951.0
35°	882.8	871.8	866.3	858.5	859.6
37.5°	766.1	762.8	749.6	754.0	749.6
40°	640.6	639.5	641.7	638.4	646.1
42.5°	522.8	519.5	525.0	521.7	525.0
45°	405.1	411.7	419.4	416.1	420.5
47.5°	310.4	311.5	309.3	311.5	313.7
50°	238.9	236.7	234.4	230.0	232.2
52.5°	197.0	189.3	183.8	180.5	179.4
55°	173.9	166.2	161.8	157.4	157.4
57.5°	167.3	157.4	150.8	147.5	146.4
60°	168.4	155.2	146.4	140.9	139.8
62.5°	172.8	155.2	143.1	137.6	135.4
65°	171.7	153.0	140.9	135.4	133.2
67°	166.2	149.7	139.8	134.3	133.2
67.5°	164.0	148.6	139.8	134.3	132.1
70°	156.3	145.3	137.6	132.1	129.9
72.5°	149.7	140.9	132.1	127.7	125.5
75°	143.1	134.3	126.6	122.2	121.1
77.5°	136.5	126.6	121.1	115.6	111.2
80°	124.4	113.4	105.7	96.9	94.7
82.5°	102.4	93.6	85.9	78.1	77.0
85°	75.9	72.6	66.0	59.4	59.4
87.5°	41.8	46.2	40.7	37.4	35.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)