

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: LUMARK

Report Number: P270703

Luminaire Tested: **NAV-AF-06-D-UNV-T2R-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270703
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-T2R-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 2700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26498 lumens
Efficiency: N/A
Efficacy: 106.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

Input Watts (W): 249
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

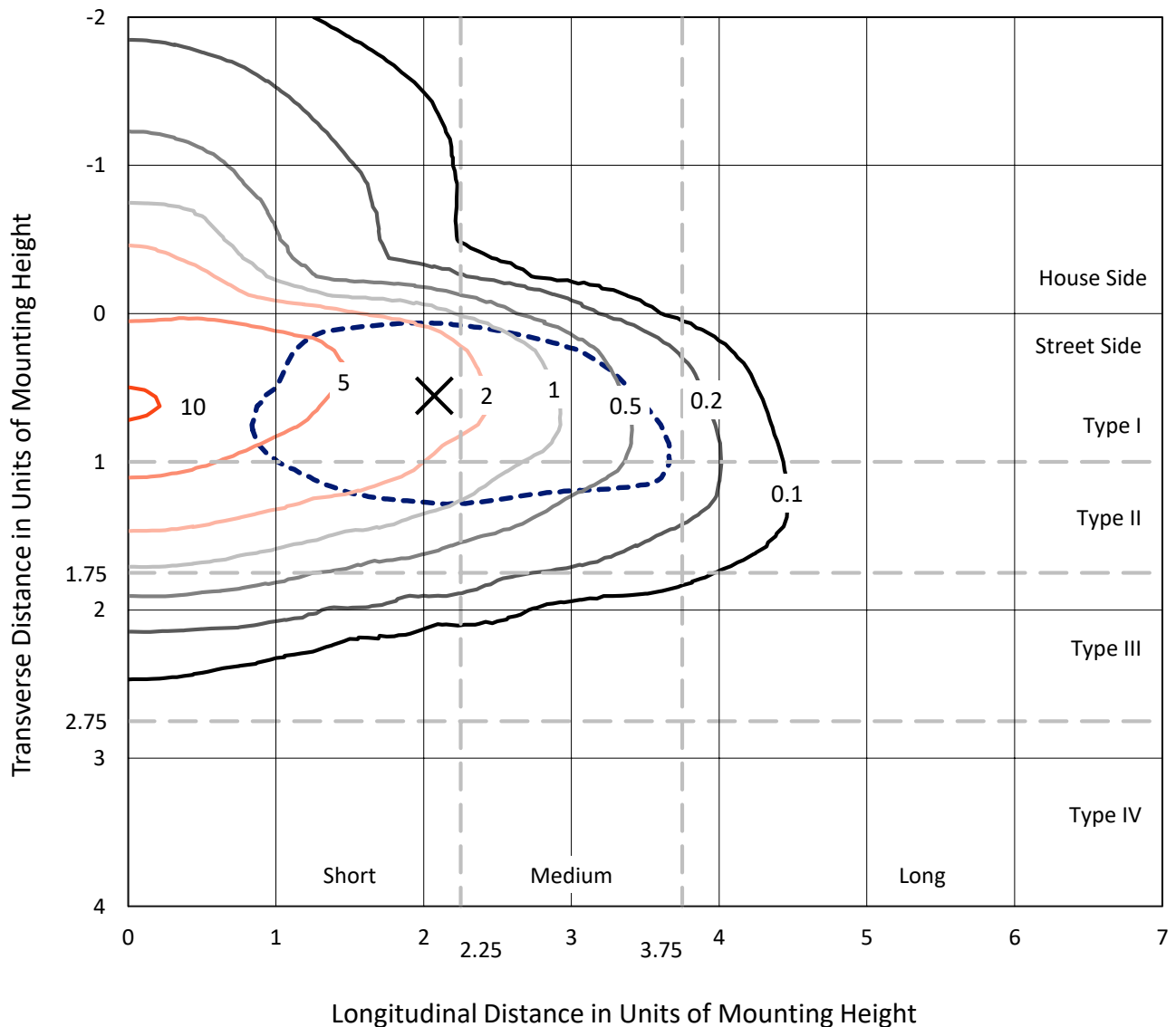


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Iso-Footcandle Lines of Horizontal Illumination

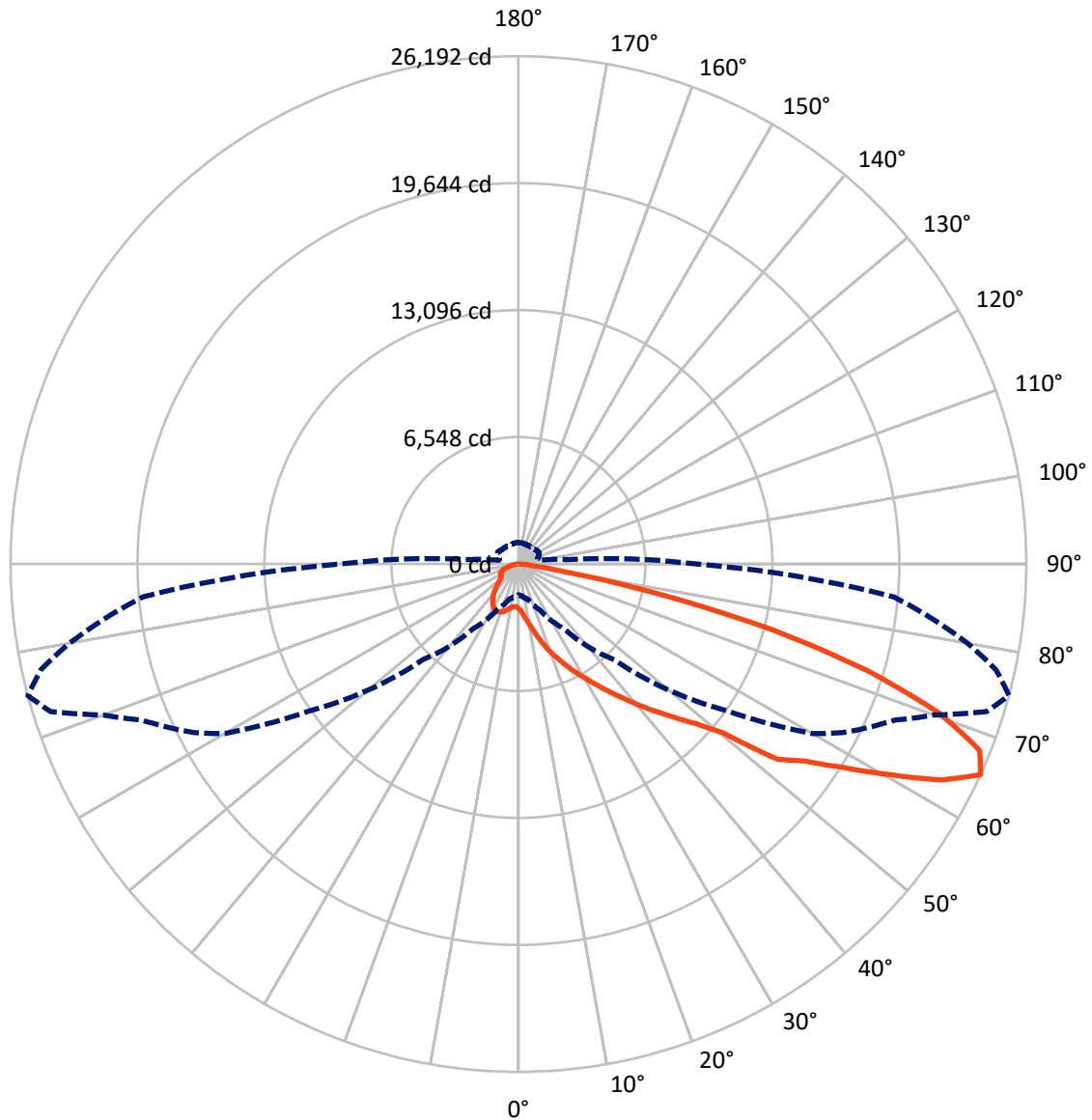
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.5 fc
 Type II - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3981.7	0.0	3981.7
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	22516.3	0.0	22516.3
	% Fixture	85.0	0.0	85.0
Total	Lumens	26498.0	0.0	26498.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.0	1.0
10°-20°	1035.3	3.9
20°-30°	2089.3	7.9
30°-40°	3548.1	13.4
40°-50°	4948.8	18.7
50°-60°	6065.4	22.9
60°-70°	5706.7	21.5
70°-80°	2502.3	9.4
80°-90°	331.1	1.2
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°	26498.0	100.0
0°-180°	26498.0	100.0

Coefficient of Utilization



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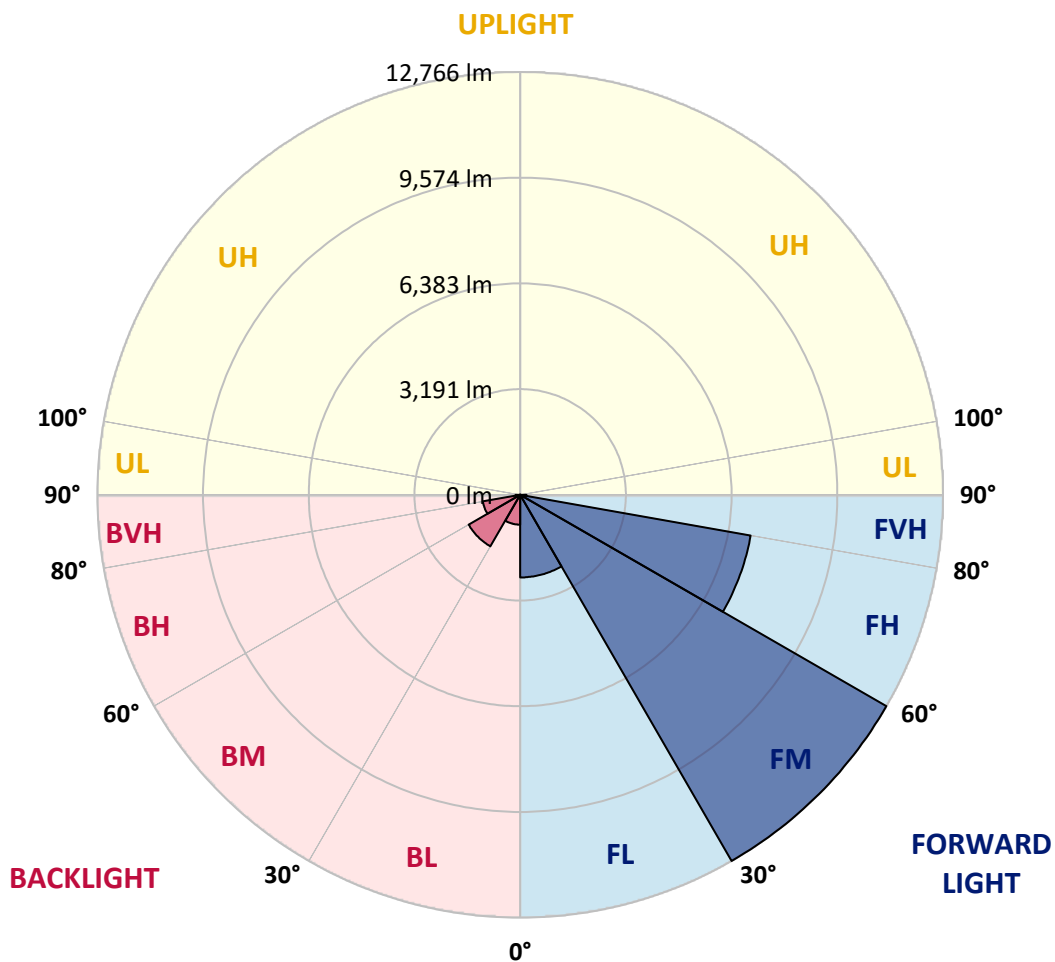
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2494.2	9.4			
FM (30°-60°)	12765.6	48.2			
FH (60°-80°)	7064.6	26.7			G3/7500
FVH (80°-90°)	192.0	0.7			G2/225
BL (0°-30°)	901.4	3.4	B2/1000		
BM (30°-60°)	1796.8	6.8	B2/2500		
BH (60°-80°)	1144.4	4.3	B3/2500		G3/2500
BVH (80°-90°)	139.2	0.5			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9
2.5°	2890.9	2857.1	2860.7	2813.4	2744.3	2668.4	2606.1	2572.3	2543.7	2535.2	2488.0
5°	3781.0	3738.8	3723.7	3615.8	3454.0	3261.7	3071.3	2997.1	2936.5	2899.4	2808.3
7.5°	4509.2	4487.3	4467.0	4367.6	4207.4	3961.3	3654.6	3545.0	3443.8	3332.6	3222.9
10°	5004.7	4996.4	4987.8	4918.8	4785.6	4571.6	4241.2	4121.5	3995.0	3853.5	3710.2
12.5°	5379.1	5379.1	5385.8	5328.4	5247.4	5082.3	4782.2	4670.9	4542.9	4394.6	4231.0
15°	5630.1	5637.0	5672.3	5689.1	5647.0	5540.8	5277.8	5180.0	5058.7	4912.0	4750.2
17.5°	5797.0	5810.5	5862.8	5918.5	5972.3	5935.3	5739.7	5648.7	5539.0	5404.3	5252.6
20°	6184.7	6167.9	6169.6	6152.8	6231.9	6260.6	6152.8	6076.9	5989.2	5866.1	5728.0
22.5°	6999.0	6967.0	6884.3	6673.6	6577.5	6567.4	6503.3	6462.9	6395.5	6317.9	6179.7
25°	8060.9	8023.8	7860.3	7513.1	7226.4	6961.9	6843.8	6818.6	6774.7	6722.5	6623.1
27.5°	9158.3	9117.8	8907.1	8468.9	8094.6	7560.2	7192.8	7159.0	7118.6	7096.7	7049.4
30°	10124.2	10080.3	9873.0	9428.0	8976.3	8339.1	7663.1	7545.1	7476.0	7482.7	7455.8
32.5°	10972.1	10933.4	10700.7	10247.2	9788.7	9170.1	8273.3	8089.5	7934.5	7877.1	7897.4
35°	11683.4	11648.1	11393.6	10936.7	10474.7	9960.6	9058.9	8782.4	8529.5	8371.0	8352.5
37.5°	12101.4	12081.2	11902.5	11514.8	11056.3	10678.8	9938.8	9631.9	9259.4	9028.4	8927.4
40°	12077.9	12099.8	12069.4	11894.2	11538.5	11263.7	10855.7	10552.3	10188.2	9844.3	9638.8
42.5°	11734.0	11764.4	11900.8	11992.0	11895.9	11728.9	11656.4	11430.7	11103.6	10739.4	10454.6
45°	11262.1	11289.0	11466.0	11794.7	12069.4	12116.7	12357.8	12244.7	11968.3	11658.2	11344.6
47.5°	10538.8	10591.0	10796.8	11319.4	11973.4	12428.5	12946.1	12998.2	12838.0	12581.9	12288.5
50°	9492.0	9561.2	9849.5	10592.9	11609.2	12748.7	13820.9	14019.8	13955.7	13696.1	13399.5
52.5°	8420.0	8489.1	8873.4	9664.0	11022.7	12880.3	14682.3	15191.3	15558.9	15826.8	15879.1
55°	7304.1	7381.6	7802.9	8713.3	10240.5	12713.4	15297.5	15875.7	16248.3	16528.0	16641.0
57.5°	6044.9	6132.5	6540.4	7460.9	9134.7	12042.5	15981.9	16801.2	17355.8	17787.2	18030.1
60°	4600.2	4709.8	5132.8	6060.1	7681.6	10758.0	16287.0	17499.1	18380.6	19027.9	19412.3
62.5°	2916.2	3027.5	3467.5	4429.9	6027.9	9003.3	15424.0	17192.2	18695.9	19653.3	20357.8
65°	1591.3	1640.1	1884.6	2609.4	4064.2	6985.4	13235.9	15321.1	17487.2	18844.1	19926.5
67.5°	1193.5	1200.1	1225.5	1402.4	2164.3	4716.6	10348.4	12258.2	14663.8	16410.1	17703.0
70°	1045.1	1045.1	1048.5	1050.2	1175.0	2555.5	7010.7	8768.9	10973.8	12740.3	14346.8
72.5°	937.2	927.1	923.7	903.5	920.4	1309.8	3816.4	5395.8	7255.2	9237.5	10736.1
75°	809.2	807.4	807.4	787.3	797.3	922.1	1655.3	2589.3	4030.4	5876.3	7351.2
77.5°	699.6	687.7	689.4	677.6	709.8	706.2	785.5	1067.0	1754.7	3086.4	4310.2
80°	576.5	568.1	573.1	566.4	617.0	522.5	529.3	652.3	871.4	1353.6	1908.2
82.5°	426.4	429.8	461.9	458.6	519.2	352.3	387.7	487.2	586.7	674.3	733.2
85°	249.5	254.5	332.1	348.9	381.1	185.4	237.7	290.0	327.1	362.5	377.6
87.5°	26.9	35.5	185.4	190.5	170.3	55.7	96.1	121.5	129.7	138.2	121.5
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):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9
2.5°	2472.9	2450.9	2427.4	2413.8	2390.3	2370.1	2333.0	2302.6	2268.8	2245.4	2235.3
5°	2762.8	2710.5	2654.9	2614.4	2563.9	2520.0	2435.8	2334.7	2302.6	2235.3	2218.4
7.5°	3140.5	3046.1	2951.7	2874.0	2786.5	2713.9	2572.3	2390.3	2366.7	2258.8	2235.3
10°	3583.8	3445.4	3305.7	3185.8	3057.8	2946.6	2737.6	2481.3	2456.1	2317.7	2294.2
12.5°	4079.4	3910.9	3730.4	3551.7	3400.1	3243.2	2958.4	2623.0	2582.4	2419.0	2386.9
15°	4590.1	4408.1	4198.9	3983.3	3796.1	3588.8	3229.8	2808.3	2734.3	2542.1	2498.1
17.5°	5094.1	4896.9	4677.7	4436.6	4217.5	3969.8	3523.1	3015.7	2887.5	2663.4	2607.7
20°	5581.3	5380.7	5149.8	4913.8	4640.6	4357.5	3823.1	3219.6	3024.1	2764.5	2692.0
22.5°	6024.7	5852.6	5621.8	5350.3	5073.8	4755.3	4128.3	3423.6	3143.8	2842.1	2749.4
25°	6491.5	6334.8	6105.5	5844.3	5522.3	5168.3	4443.5	3617.5	3239.8	2884.2	2769.6
27.5°	6963.5	6828.6	6613.0	6338.1	5992.7	5599.9	4763.7	3796.1	3317.4	2897.8	2759.5
30°	7467.5	7363.0	7164.2	6857.3	6508.4	6073.5	5112.7	3971.4	3366.3	2879.2	2713.9
32.5°	7944.6	7941.2	7764.2	7445.6	7069.8	6591.0	5480.1	4148.5	3391.6	2826.8	2634.6
35°	8440.1	8509.4	8376.2	8072.7	7676.6	7145.6	5886.4	4337.2	3393.3	2734.3	2532.0
37.5°	9003.3	9126.3	9067.2	8779.0	8362.6	7777.7	6363.5	4549.6	3383.1	2606.1	2381.9
40°	9643.8	9812.4	9810.6	9567.8	9122.8	8485.7	6917.9	4787.3	3359.5	2445.9	2204.9
42.5°	10377.0	10577.6	10633.2	10393.8	9943.8	9259.4	7553.5	5048.7	3322.6	2287.4	2017.8
45°	11216.4	11393.6	11498.0	11275.4	10823.8	10102.2	8283.5	5345.3	3276.9	2083.4	1803.6
47.5°	12114.9	12320.7	12477.4	12286.8	11804.7	11063.0	9148.2	5728.0	3260.0	1850.9	1572.8
50°	13229.2	13441.6	13780.4	13694.4	13429.8	12833.0	10977.1	6631.5	3266.9	1630.1	1378.9
52.5°	15993.8	16480.8	16909.1	16718.5	16089.8	15066.6	12464.0	7133.8	3125.3	1449.7	1244.1
55°	16828.0	17381.0	18013.2	17933.9	17330.5	16298.8	13638.8	7553.5	2988.8	1318.3	1156.4
57.5°	18288.0	18940.3	19823.5	19806.6	19066.6	17905.2	15150.9	8055.9	2929.7	1242.4	1112.6
60°	19833.7	20664.7	21885.1	22075.7	21271.5	20062.9	16937.7	8672.7	2938.1	1200.1	1087.3
62.5°	20963.0	22181.8	23956.9	24526.7	23579.3	22247.6	18792.0	9289.7	2887.5	1151.3	1056.9
65°	21032.1	22786.9	25305.4	26192.1	25232.9	23521.9	19446.0	9168.5	2584.2	1085.6	1008.1
67.5°	19346.4	21632.4	24691.8	25664.4	24683.4	22736.5	18299.7	8015.3	2100.3	971.0	923.7
70°	16113.3	18766.6	21942.4	23026.3	22215.5	20245.0	15926.3	6402.2	1569.3	819.3	797.3
72.5°	12452.0	14926.6	17810.9	18813.8	18193.6	16460.6	12561.7	4665.9	1120.9	664.1	647.3
75°	8902.1	11009.2	13102.8	13485.4	12873.5	11282.3	8150.2	2914.6	785.5	544.5	520.8
77.5°	5512.2	6882.6	7634.4	7142.2	6361.7	5288.0	3317.4	1439.5	522.5	443.4	419.8
80°	2445.9	2870.8	2680.3	2388.7	1886.4	1550.8	1013.1	638.9	337.1	342.2	328.7
82.5°	822.6	869.7	846.3	841.2	758.6	664.1	429.8	276.5	188.9	219.1	214.1
85°	401.3	419.8	421.5	436.5	379.3	295.1	116.3	109.6	80.8	117.9	123.1
87.5°	121.5	123.1	111.3	121.5	97.7	67.5	21.9	30.4	15.2	28.7	28.7
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):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9
2.5°	2216.7	2209.9	2198.2	2184.7	2181.3	2164.3	2159.3	2150.9	2146.0	2137.4	2130.7
5°	2196.4	2184.7	2171.2	2156.0	2156.0	2132.3	2122.2	2112.2	2112.2	2097.0	2090.3
7.5°	2216.7	2201.4	2186.4	2172.8	2177.9	2150.9	2140.8	2130.7	2129.1	2113.8	2107.2
10°	2274.0	2258.8	2240.3	2226.8	2221.7	2199.8	2188.0	2172.8	2162.7	2152.6	2142.5
12.5°	2361.6	2341.4	2317.7	2289.2	2277.4	2258.8	2240.3	2220.0	2196.4	2186.4	2171.2
15°	2466.1	2432.4	2400.5	2365.0	2333.0	2314.5	2289.2	2257.1	2225.1	2211.5	2191.3
17.5°	2552.2	2516.7	2471.1	2429.0	2371.7	2356.6	2321.2	2282.5	2230.1	2225.1	2194.7
20°	2624.6	2570.7	2515.1	2464.5	2376.8	2368.4	2324.5	2279.0	2204.9	2204.9	2167.8
22.5°	2665.0	2590.9	2525.1	2457.8	2348.2	2341.4	2290.9	2236.9	2146.0	2149.3	2103.7
25°	2671.7	2582.4	2499.9	2419.0	2292.6	2280.7	2216.7	2157.6	2058.1	2051.5	2004.3
27.5°	2644.8	2540.2	2444.3	2346.5	2209.9	2184.7	2113.8	2043.0	1945.3	1928.4	1877.8
30°	2582.4	2459.4	2351.6	2238.5	2095.2	2054.9	1980.7	1908.2	1808.7	1786.8	1739.6
32.5°	2483.1	2343.0	2223.5	2110.5	1951.9	1901.4	1827.3	1754.7	1658.7	1641.8	1598.1
35°	2351.6	2194.7	2068.3	1948.7	1790.2	1738.0	1667.2	1603.0	1515.4	1508.7	1478.3
37.5°	2186.4	2022.9	1888.0	1773.3	1623.2	1596.4	1523.9	1476.6	1404.2	1410.9	1395.7
40°	1999.2	1832.4	1704.3	1603.0	1473.3	1449.7	1405.8	1370.5	1308.1	1326.6	1328.4
42.5°	1810.4	1643.4	1527.2	1436.2	1324.9	1309.8	1279.5	1259.2	1212.1	1249.2	1264.3
45°	1596.4	1441.2	1341.8	1272.7	1190.1	1190.1	1175.0	1173.2	1141.1	1193.5	1208.6
47.5°	1389.0	1267.6	1198.5	1156.4	1099.0	1126.0	1120.9	1134.5	1110.8	1164.8	1178.2
50°	1232.3	1147.9	1105.9	1085.6	1045.1	1087.3	1097.4	1116.0	1095.8	1143.0	1153.1
52.5°	1132.8	1077.2	1053.5	1048.5	1019.8	1072.0	1088.9	1105.9	1082.2	1126.0	1124.4
55°	1077.2	1040.1	1031.7	1041.8	1019.8	1070.4	1087.3	1099.0	1078.9	1109.1	1107.5
57.5°	1056.9	1036.7	1041.8	1056.9	1041.8	1083.8	1092.2	1105.9	1085.6	1099.0	1105.9
60°	1055.1	1055.1	1075.5	1095.8	1085.6	1116.0	1120.9	1119.3	1100.8	1102.4	1105.9
62.5°	1045.1	1070.4	1104.1	1136.1	1132.8	1169.9	1173.2	1151.3	1136.1	1119.3	1114.3
65°	1013.1	1055.1	1104.1	1147.9	1154.7	1212.1	1218.7	1196.8	1186.8	1158.0	1136.1
67.5°	942.3	996.2	1053.5	1107.5	1119.3	1196.8	1212.1	1220.4	1225.5	1207.0	1178.2
70°	822.6	878.3	937.2	999.6	1016.4	1102.4	1134.5	1173.2	1203.5	1230.6	1220.4
72.5°	669.1	719.8	770.3	827.7	852.9	942.3	984.5	1051.8	1099.0	1168.2	1196.8
75°	531.0	561.4	591.7	627.0	647.3	735.0	787.3	868.1	932.3	1028.3	1092.2
77.5°	418.0	433.3	448.4	463.5	472.0	520.8	563.0	643.9	718.0	839.5	933.9
80°	322.0	330.3	332.1	337.1	333.8	357.3	372.5	421.5	485.4	605.2	716.4
82.5°	207.4	214.1	217.5	225.8	209.0	239.4	249.5	254.5	288.3	375.9	455.1
85°	116.3	117.9	119.7	123.1	99.4	129.7	131.5	123.1	119.7	155.0	175.3
87.5°	28.7	26.9	28.7	28.7	11.8	26.9	26.9	18.5	13.5	25.3	20.2
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):

	135°	145°	155°	165°	175°	180°
0°	2295.9	2295.9	2295.9	2295.9	2295.9	2295.9
2.5°	2115.5	2112.2	2113.8	2105.4	2102.0	2103.7
5°	2081.8	2075.1	2075.1	2070.1	2063.2	2063.2
7.5°	2097.0	2083.4	2078.5	2068.3	2058.1	2060.0
10°	2120.5	2097.0	2080.1	2064.9	2053.2	2053.2
12.5°	2135.8	2093.6	2068.3	2048.0	2034.7	2034.7
15°	2139.1	2075.1	2038.0	2016.1	2002.6	2002.6
17.5°	2118.9	2038.0	1990.7	1962.1	1946.9	1950.3
20°	2068.3	1968.8	1913.2	1882.8	1867.8	1869.5
22.5°	1989.0	1874.5	1810.4	1775.1	1759.9	1759.9
25°	1881.2	1756.5	1687.3	1658.7	1645.2	1645.2
27.5°	1758.2	1630.1	1569.3	1547.4	1539.1	1539.1
30°	1620.0	1513.7	1469.8	1454.7	1441.2	1441.2
32.5°	1503.7	1427.8	1412.7	1392.4	1357.0	1355.4
35°	1410.9	1402.4	1390.7	1330.0	1279.5	1272.7
37.5°	1360.4	1410.9	1336.8	1232.3	1191.8	1190.1
40°	1333.4	1380.5	1252.4	1201.9	1196.8	1196.8
42.5°	1269.3	1303.0	1247.3	1218.7	1218.7	1220.4
45°	1201.9	1230.6	1259.2	1233.9	1242.4	1244.1
47.5°	1154.7	1212.1	1259.2	1237.2	1254.2	1264.3
50°	1110.8	1195.1	1233.9	1233.9	1252.4	1254.2
52.5°	1100.8	1171.6	1210.3	1228.8	1230.6	1222.1
55°	1102.4	1153.1	1191.8	1215.3	1205.3	1205.3
57.5°	1100.8	1143.0	1176.6	1185.0	1190.1	1190.1
60°	1102.4	1129.3	1156.4	1153.1	1169.9	1169.9
62.5°	1107.5	1110.8	1124.4	1120.9	1146.2	1146.2
65°	1119.3	1087.3	1078.9	1082.2	1112.6	1110.8
67.5°	1141.1	1055.1	1028.3	1029.9	1073.7	1067.0
70°	1173.2	1011.4	971.0	960.8	1034.9	1023.2
72.5°	1183.3	960.8	896.8	886.6	930.6	896.8
75°	1136.1	920.4	817.5	783.9	765.3	755.1
77.5°	1013.1	895.2	735.0	664.1	635.6	628.8
80°	839.5	842.8	627.0	542.8	630.4	628.8
82.5°	633.8	728.3	502.3	470.4	456.8	381.1
85°	306.9	547.8	386.0	323.7	193.9	183.8
87.5°	26.9	229.2	222.5	144.9	65.8	62.3
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)