

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: P196758

Luminaire Tested: **NAV-AF-06-D-UNV-T2R-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196758
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-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24054.5 lumens
Efficiency: N/A
Efficacy: 124.6 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): 193
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

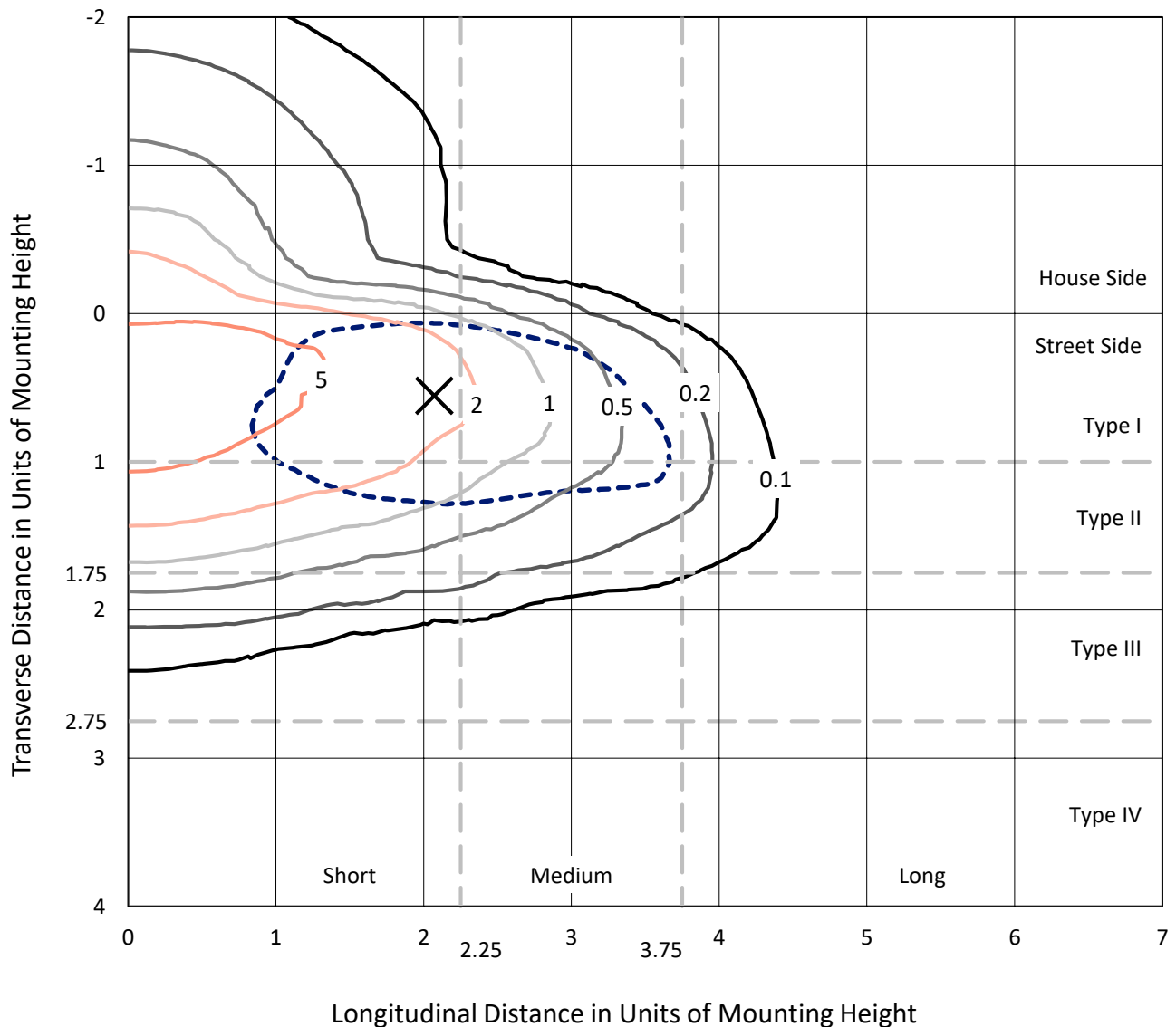


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Iso-Footcandle Lines of Horizontal Illumination

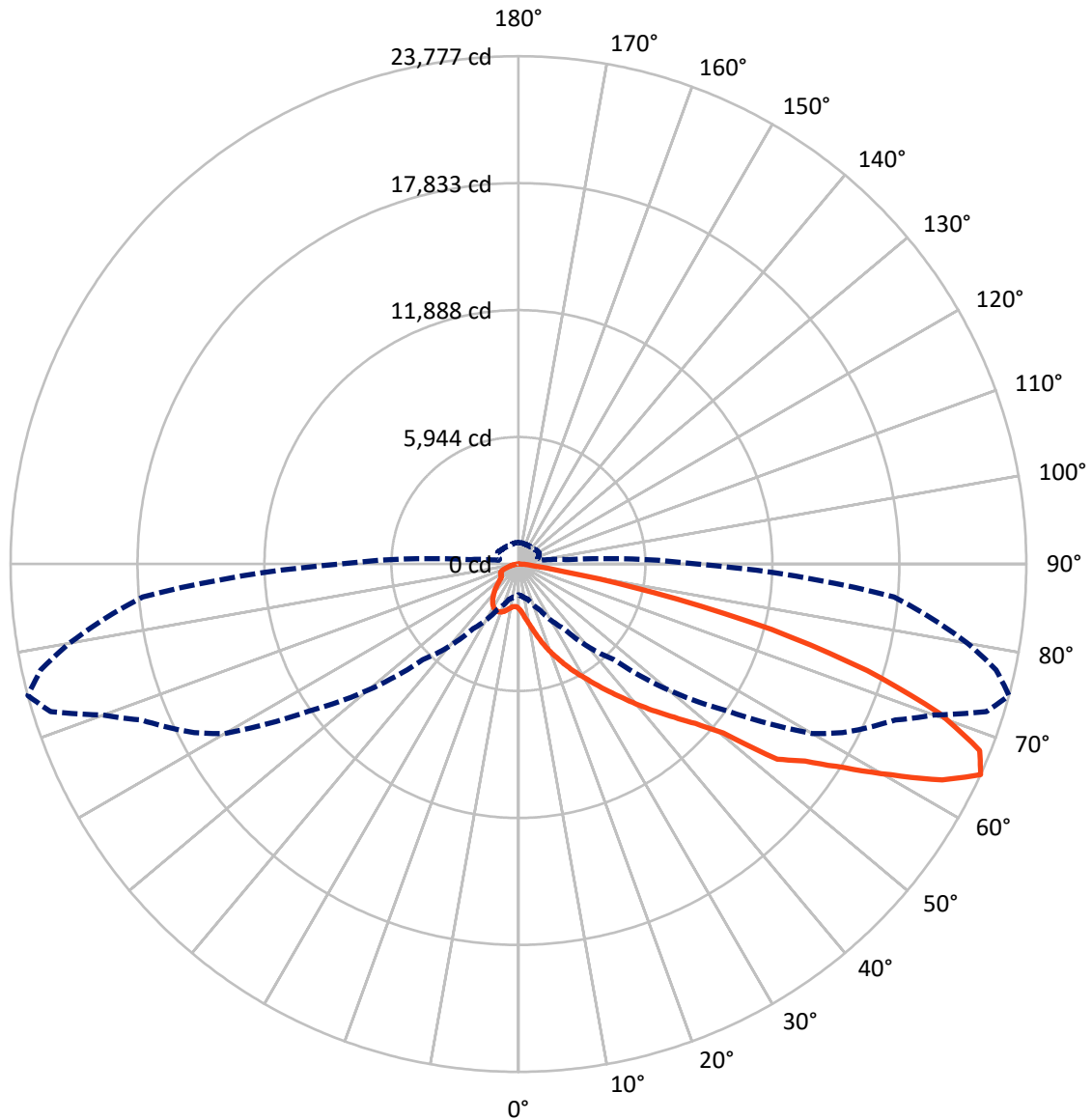
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.6 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	3614.6	0.0	3614.6
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	20440.0	0.0	20440.0
	% Fixture	85.0	0.0	85.0
Total	Lumens	24054.5	0.0	24054.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	246.0	1.0
10°-20°	939.8	3.9
20°-30°	1896.6	7.9
30°-40°	3221.0	13.4
40°-50°	4492.5	18.7
50°-60°	5506.1	22.9
60°-70°	5180.4	21.5
70°-80°	2271.6	9.4
80°-90°	300.6	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°	24054.5	100.0
0°-180°	24054.5	100.0

Coefficient of Utilization



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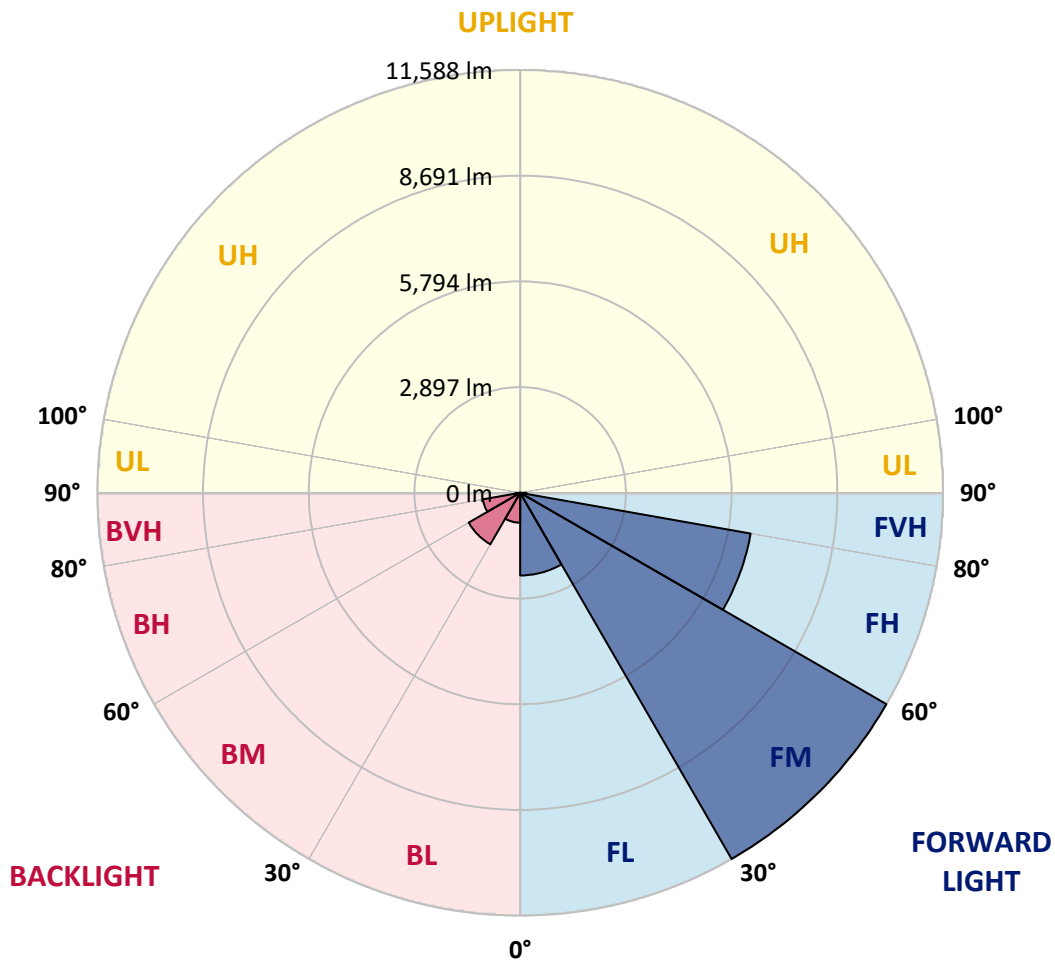
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2264.2	9.4			
FM	(30°-60°)	11588.4	48.2			
FH	(60°-80°)	6413.1	26.7			G3/7500
FVH	(80°-90°)	174.2	0.7			G2/225
BL	(0°-30°)	818.3	3.4	B2/1000		
BM	(30°-60°)	1631.1	6.8	B2/2500		
BH	(60°-80°)	1038.9	4.3	B3/2500		G3/2500
BVH	(80°-90°)	126.3	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°	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2
2.5°	2624.3	2593.7	2596.8	2553.9	2491.2	2422.4	2365.8	2335.1	2309.0	2301.4	2258.6
5°	3432.3	3394.0	3380.3	3282.3	3135.4	2961.0	2788.1	2720.8	2665.7	2631.9	2549.3
7.5°	4093.4	4073.5	4055.1	3964.8	3819.4	3596.0	3317.5	3218.1	3126.2	3025.3	2925.9
10°	4543.2	4535.6	4527.9	4465.2	4344.3	4150.0	3850.1	3741.4	3626.7	3498.2	3368.0
12.5°	4883.1	4883.1	4889.2	4837.0	4763.6	4613.7	4341.3	4240.3	4124.0	3989.3	3840.9
15°	5110.9	5117.0	5149.3	5164.5	5126.2	5029.9	4791.1	4702.4	4592.2	4459.1	4312.3
17.5°	5262.5	5274.7	5322.1	5372.6	5421.7	5387.9	5210.5	5127.7	5028.3	4906.0	4768.2
20°	5614.4	5599.1	5600.6	5585.4	5657.2	5683.2	5585.4	5516.5	5437.0	5325.2	5199.7
22.5°	6353.5	6324.5	6249.5	6058.2	5971.0	5961.8	5903.6	5866.9	5805.7	5735.3	5609.8
25°	7317.5	7283.9	7135.5	6820.3	6560.2	6319.9	6212.7	6189.7	6149.9	6102.5	6012.3
27.5°	8313.7	8277.1	8085.7	7687.9	7348.2	6863.1	6529.6	6498.8	6462.1	6442.3	6399.5
30°	9190.6	9150.8	8962.5	8558.6	8148.4	7570.0	6956.4	6849.4	6786.5	6792.6	6768.2
32.5°	9960.3	9925.1	9713.9	9302.4	8886.0	8324.5	7510.4	7343.6	7202.8	7150.8	7169.1
35°	10606.1	10573.9	10342.8	9928.2	9508.9	9042.2	8223.5	7972.5	7742.9	7599.1	7582.3
37.5°	10985.6	10967.2	10804.9	10453.1	10036.8	9694.0	9022.3	8743.8	8405.6	8196.0	8104.1
40°	10964.1	10984.1	10956.5	10797.3	10474.4	10225.0	9854.7	9579.3	9248.7	8936.6	8749.9
42.5°	10651.9	10679.5	10803.4	10886.0	10798.8	10647.4	10581.5	10376.5	10079.6	9749.1	9490.5
45°	10223.5	10248.0	10408.7	10707.1	10956.5	10999.3	11218.0	11115.6	10864.6	10583.1	10298.4
47.5°	9567.1	9614.5	9801.1	10275.5	10869.2	11282.4	11752.2	11799.7	11654.2	11421.6	11155.4
50°	8616.7	8679.4	8941.1	9616.0	10538.7	11573.2	12546.4	12726.9	12668.8	12433.1	12163.9
52.5°	7643.6	7706.3	8055.1	8772.9	10006.2	11692.5	13328.3	13790.4	14124.1	14367.4	14414.8
55°	6630.5	6700.9	7083.5	7909.9	9296.3	11541.0	13886.9	14411.8	14749.9	15003.9	15106.4
57.5°	5487.4	5567.0	5937.2	6772.8	8292.3	10931.9	14508.1	15251.8	15755.3	16147.0	16367.4
60°	4176.0	4275.5	4659.6	5501.2	6973.3	9765.9	14785.1	15885.3	16685.6	17273.3	17622.2
62.5°	2647.4	2748.3	3147.6	4021.5	5472.1	8172.9	14001.7	15606.8	16971.8	17841.0	18480.6
65°	1444.5	1488.8	1710.8	2368.8	3689.3	6341.3	12015.4	13908.2	15874.6	17106.5	18088.9
67.5°	1083.5	1089.6	1112.5	1273.2	1964.8	4281.6	9394.1	11127.8	13311.5	14896.9	16070.5
70°	948.7	948.7	951.7	953.3	1066.6	2319.8	6364.3	7960.3	9961.8	11565.5	13023.8
72.5°	850.8	841.7	838.6	820.2	835.5	1189.0	3464.4	4898.3	6586.1	8385.6	9746.0
75°	734.6	733.0	733.0	714.7	723.9	837.0	1502.7	2350.3	3658.8	5334.4	6673.3
77.5°	635.1	624.3	625.8	615.1	644.2	641.2	713.1	968.6	1593.0	2801.9	3912.8
80°	523.4	515.7	520.3	514.2	560.1	474.4	480.5	592.1	791.1	1228.7	1732.2
82.5°	387.1	390.2	419.3	416.3	471.4	319.8	352.0	442.3	532.5	612.1	665.6
85°	226.5	231.1	301.4	316.8	345.8	168.4	215.8	263.2	296.8	329.0	342.7
87.5°	24.5	32.1	168.4	172.9	154.6	50.5	87.2	110.2	117.8	125.4	110.2
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):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2
2.5°	2244.8	2224.9	2203.5	2191.3	2169.9	2151.6	2117.9	2090.3	2059.6	2038.2	2029.1
5°	2508.0	2460.6	2410.2	2373.4	2327.4	2287.7	2211.2	2119.4	2090.3	2029.1	2013.7
7.5°	2850.8	2765.2	2679.5	2609.0	2529.5	2463.7	2335.1	2169.9	2148.5	2050.5	2029.1
10°	3253.3	3127.8	3000.8	2892.1	2775.8	2674.8	2485.1	2252.5	2229.6	2104.2	2082.7
12.5°	3703.2	3550.2	3386.4	3224.2	3086.5	2944.2	2685.6	2381.1	2344.2	2195.9	2166.8
15°	4166.8	4001.5	3811.8	3615.9	3446.0	3257.9	2932.0	2549.3	2482.1	2307.5	2267.7
17.5°	4624.4	4445.3	4246.4	4027.7	3828.7	3603.7	3198.2	2737.6	2621.2	2417.8	2367.3
20°	5066.6	4884.6	4674.8	4460.6	4212.7	3955.6	3470.6	2922.8	2745.2	2509.5	2443.8
22.5°	5469.1	5312.9	5103.3	4857.0	4606.1	4316.9	3747.6	3107.9	2853.9	2579.9	2495.8
25°	5892.9	5750.7	5542.5	5305.3	5013.1	4691.7	4033.8	3283.9	2941.2	2618.2	2514.2
27.5°	6321.4	6199.0	6003.1	5753.7	5440.0	5083.4	4324.5	3446.0	3011.5	2630.4	2505.0
30°	6778.9	6684.1	6503.4	6224.9	5908.2	5513.4	4641.3	3605.2	3055.9	2613.6	2463.7
32.5°	7211.9	7208.9	7048.2	6759.0	6417.8	5983.2	4974.8	3765.9	3078.8	2566.2	2391.8
35°	7662.0	7724.6	7603.7	7328.2	6968.7	6486.6	5343.6	3937.2	3080.3	2482.1	2298.4
37.5°	8172.9	8284.7	8231.1	7969.5	7591.5	7060.5	5776.6	4130.1	3071.2	2365.8	2162.2
40°	8754.5	8907.5	8905.9	8685.6	8281.7	7703.3	6280.1	4345.9	3049.8	2220.3	2001.5
42.5°	9420.2	9602.2	9652.7	9435.4	9026.9	8405.6	6857.0	4583.1	3016.1	2076.5	1831.7
45°	10182.2	10342.8	10437.7	10235.7	9825.5	9170.6	7519.6	4852.4	2974.8	1891.4	1637.4
47.5°	10997.8	11184.5	11326.8	11153.8	10716.2	10042.9	8304.6	5199.7	2959.5	1680.2	1427.7
50°	12009.2	12202.1	12509.6	12431.6	12191.3	11649.7	9964.9	6019.9	2965.7	1479.7	1251.8
52.5°	14518.8	14961.1	15349.8	15176.8	14606.1	13677.2	11314.6	6475.9	2837.0	1316.0	1129.3
55°	15276.3	15778.2	16352.1	16280.1	15732.4	14795.8	12381.1	6857.0	2713.1	1196.6	1049.8
57.5°	16601.5	17193.7	17995.5	17980.2	17308.5	16254.2	13753.8	7312.9	2659.6	1127.8	1010.0
60°	18004.8	18759.2	19867.0	20039.9	19310.1	18212.9	15375.7	7873.0	2667.2	1089.6	987.0
62.5°	19030.0	20136.4	21747.6	22264.9	21404.9	20196.0	17059.0	8433.0	2621.2	1045.2	959.4
65°	19092.7	20685.7	22971.9	23776.8	22906.1	21352.9	17652.8	8323.0	2345.8	985.5	915.0
67.5°	17562.5	19637.5	22414.9	23297.8	22407.2	20639.7	16612.3	7276.2	1906.7	881.4	838.6
70°	14627.5	17036.0	19919.0	20902.9	20167.0	18378.1	14457.6	5811.8	1424.6	743.7	723.9
72.5°	11303.9	13550.3	16168.4	17079.0	16515.8	14942.8	11403.3	4235.7	1017.6	602.9	587.6
75°	8081.2	9994.0	11894.5	12241.9	11686.4	10241.9	7398.7	2645.8	713.1	494.3	472.9
77.5°	5003.8	6248.0	6930.5	6483.6	5775.1	4800.3	3011.5	1306.8	474.4	402.4	381.0
80°	2220.3	2606.0	2433.1	2168.4	1712.3	1407.8	919.6	579.9	306.0	310.7	298.4
82.5°	746.8	789.6	768.2	763.6	688.6	602.9	390.2	251.0	171.4	199.0	194.4
85°	364.2	381.0	382.5	396.3	344.2	267.8	105.6	99.4	73.4	107.1	111.7
87.5°	110.2	111.7	100.9	110.2	88.7	61.1	19.8	27.6	13.7	26.0	26.0
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):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2
2.5°	2012.2	2006.1	1995.4	1983.2	1980.1	1964.8	1960.2	1952.6	1948.0	1940.3	1934.2
5°	1993.9	1983.2	1970.9	1957.2	1957.2	1935.7	1926.6	1917.4	1917.4	1903.7	1897.5
7.5°	2012.2	1998.5	1984.7	1972.4	1977.0	1952.6	1943.4	1934.2	1932.7	1918.9	1912.8
10°	2064.2	2050.5	2033.7	2021.4	2016.8	1996.9	1986.3	1972.4	1963.3	1954.1	1945.0
12.5°	2143.8	2125.5	2104.2	2078.0	2067.3	2050.5	2033.7	2015.3	1993.9	1984.7	1970.9
15°	2238.7	2208.1	2179.0	2147.0	2117.9	2101.0	2078.0	2048.9	2019.8	2007.6	1989.3
17.5°	2316.8	2284.6	2243.3	2205.1	2153.1	2139.3	2107.2	2071.9	2024.5	2019.8	1992.4
20°	2382.6	2333.6	2283.1	2237.2	2157.7	2150.0	2110.3	2068.9	2001.5	2001.5	1967.9
22.5°	2419.3	2352.0	2292.3	2231.1	2131.6	2125.5	2079.6	2030.6	1948.0	1951.1	1909.8
25°	2425.4	2344.2	2269.4	2195.9	2081.2	2070.4	2012.2	1958.7	1868.5	1862.4	1819.5
27.5°	2401.0	2306.0	2218.8	2130.1	2006.1	1983.2	1918.9	1854.6	1765.8	1750.6	1704.7
30°	2344.2	2232.6	2134.7	2032.1	1902.1	1865.4	1798.0	1732.2	1641.9	1622.1	1579.3
32.5°	2254.0	2127.1	2018.3	1915.9	1771.9	1726.1	1658.8	1593.0	1505.7	1490.4	1450.6
35°	2134.7	1992.4	1877.6	1768.9	1625.1	1577.7	1513.4	1455.3	1375.7	1369.6	1342.0
37.5°	1984.7	1836.3	1713.8	1609.8	1473.6	1449.1	1383.3	1340.5	1274.7	1280.8	1267.1
40°	1814.9	1663.4	1547.1	1455.3	1337.5	1316.0	1276.2	1244.0	1187.4	1204.2	1205.7
42.5°	1643.5	1491.9	1386.4	1303.8	1202.7	1189.0	1161.4	1143.1	1100.2	1133.9	1147.7
45°	1449.1	1308.4	1218.0	1155.3	1080.3	1080.3	1066.6	1065.1	1036.0	1083.5	1097.2
47.5°	1261.0	1150.7	1088.0	1049.8	997.7	1022.2	1017.6	1029.9	1008.5	1057.4	1069.6
50°	1118.6	1042.2	1003.9	985.5	948.7	987.0	996.2	1013.1	994.7	1037.5	1046.7
52.5°	1028.3	977.9	956.3	951.7	925.8	973.3	988.6	1003.9	982.5	1022.2	1020.7
55°	977.9	944.1	936.5	945.6	925.8	971.8	987.0	997.7	979.4	1007.0	1005.4
57.5°	959.4	941.0	945.6	959.4	945.6	984.0	991.6	1003.9	985.5	997.7	1003.9
60°	957.8	957.8	976.3	994.7	985.5	1013.1	1017.6	1016.1	999.2	1000.9	1003.9
62.5°	948.7	971.8	1002.4	1031.4	1028.3	1062.0	1065.1	1045.2	1031.4	1016.1	1011.5
65°	919.6	957.8	1002.4	1042.2	1048.3	1100.2	1106.4	1086.5	1077.3	1051.3	1031.4
67.5°	855.4	904.3	956.3	1005.4	1016.1	1086.5	1100.2	1107.9	1112.5	1095.7	1069.6
70°	746.8	797.3	850.8	907.4	922.7	1000.9	1029.9	1065.1	1092.6	1117.0	1107.9
72.5°	607.5	653.4	699.4	751.3	774.3	855.4	893.6	954.8	997.7	1060.5	1086.5
75°	482.1	509.5	537.1	569.2	587.6	667.1	714.7	788.1	846.2	933.4	991.6
77.5°	379.4	393.3	407.0	420.8	428.6	472.9	511.2	584.5	651.8	762.1	847.8
80°	292.3	299.9	301.4	306.0	302.9	324.4	338.1	382.5	440.8	549.3	650.3
82.5°	188.3	194.4	197.4	205.1	189.8	217.3	226.5	231.1	261.6	341.2	413.1
85°	105.6	107.1	108.6	111.7	90.2	117.8	119.3	111.7	108.6	140.8	159.2
87.5°	26.0	24.5	26.0	26.0	10.7	24.5	24.5	16.8	12.2	23.0	18.3
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):

	135°	145°	155°	165°	175°	180°
0°	2084.2	2084.2	2084.2	2084.2	2084.2	2084.2
2.5°	1920.4	1917.4	1918.9	1911.3	1908.2	1909.8
5°	1889.8	1883.7	1883.7	1879.2	1873.0	1873.0
7.5°	1903.7	1891.4	1886.8	1877.6	1868.5	1870.0
10°	1925.0	1903.7	1888.3	1874.6	1863.9	1863.9
12.5°	1938.8	1900.6	1877.6	1859.3	1847.0	1847.0
15°	1941.9	1883.7	1850.1	1830.2	1818.0	1818.0
17.5°	1923.5	1850.1	1807.2	1781.2	1767.4	1770.4
20°	1877.6	1787.3	1736.7	1709.3	1695.4	1697.1
22.5°	1805.7	1701.6	1643.5	1611.3	1597.6	1597.6
25°	1707.7	1594.5	1531.9	1505.7	1493.5	1493.5
27.5°	1596.1	1479.7	1424.6	1404.7	1397.1	1397.1
30°	1470.5	1374.2	1334.4	1320.6	1308.4	1308.4
32.5°	1364.9	1296.2	1282.3	1264.0	1231.8	1230.3
35°	1280.8	1273.2	1262.5	1207.4	1161.4	1155.3
37.5°	1234.8	1280.8	1213.5	1118.6	1081.8	1080.3
40°	1210.4	1253.3	1137.0	1091.1	1086.5	1086.5
42.5°	1152.2	1182.8	1132.4	1106.4	1106.4	1107.9
45°	1091.1	1117.0	1143.1	1120.1	1127.8	1129.3
47.5°	1048.3	1100.2	1143.1	1123.1	1138.5	1147.7
50°	1008.5	1085.0	1120.1	1120.1	1137.0	1138.5
52.5°	999.2	1063.5	1098.7	1115.5	1117.0	1109.4
55°	1000.9	1046.7	1081.8	1103.3	1094.1	1094.1
57.5°	999.2	1037.5	1068.1	1075.7	1080.3	1080.3
60°	1000.9	1025.3	1049.8	1046.7	1062.0	1062.0
62.5°	1005.4	1008.5	1020.7	1017.6	1040.5	1040.5
65°	1016.1	987.0	979.4	982.5	1010.0	1008.5
67.5°	1036.0	957.8	933.4	934.9	974.8	968.6
70°	1065.1	918.1	881.4	872.2	939.5	928.8
72.5°	1074.2	872.2	814.1	804.9	844.7	814.1
75°	1031.4	835.5	742.2	711.6	694.8	685.5
77.5°	919.6	812.6	667.1	602.9	576.9	570.8
80°	762.1	765.2	569.2	492.8	572.3	570.8
82.5°	575.4	661.0	456.0	426.9	414.6	345.8
85°	278.5	497.3	350.4	293.8	176.0	166.8
87.5°	24.5	208.1	202.0	131.5	59.6	56.6
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)