

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: P144548

Luminaire Tested: **LDRL-RW-E04-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P144548
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33700)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-RW-E04-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - RECTANGULAR WIDE
Light Source: (84) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10140.3 lumens
Efficiency: N/A
Efficacy: 104.3 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type I - Short - Full Cutoff
BUG Rating: B3 - U0 - G3

Input Watts (W): 97.2
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

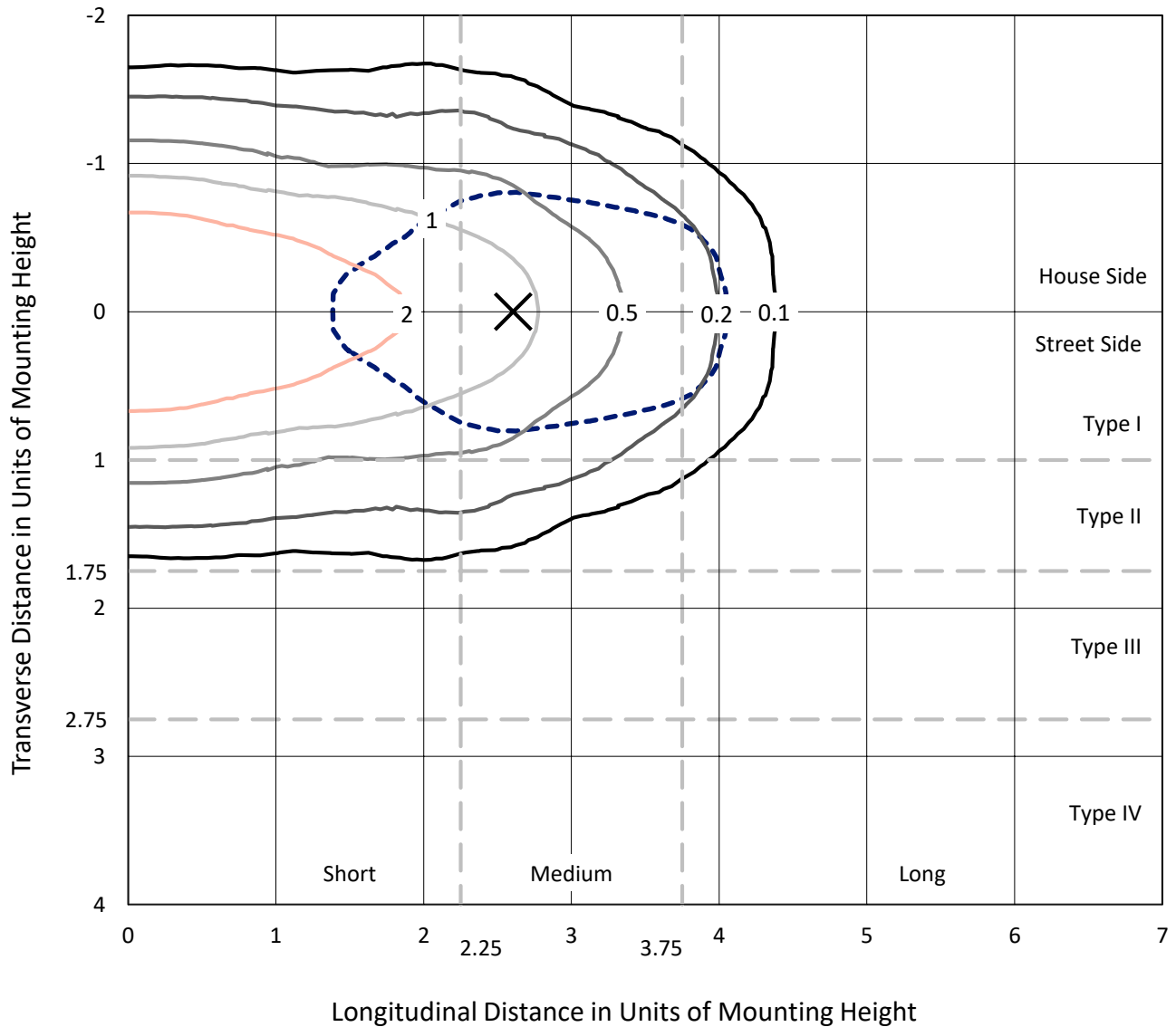


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Iso-Footcandle Lines of Horizontal Illumination

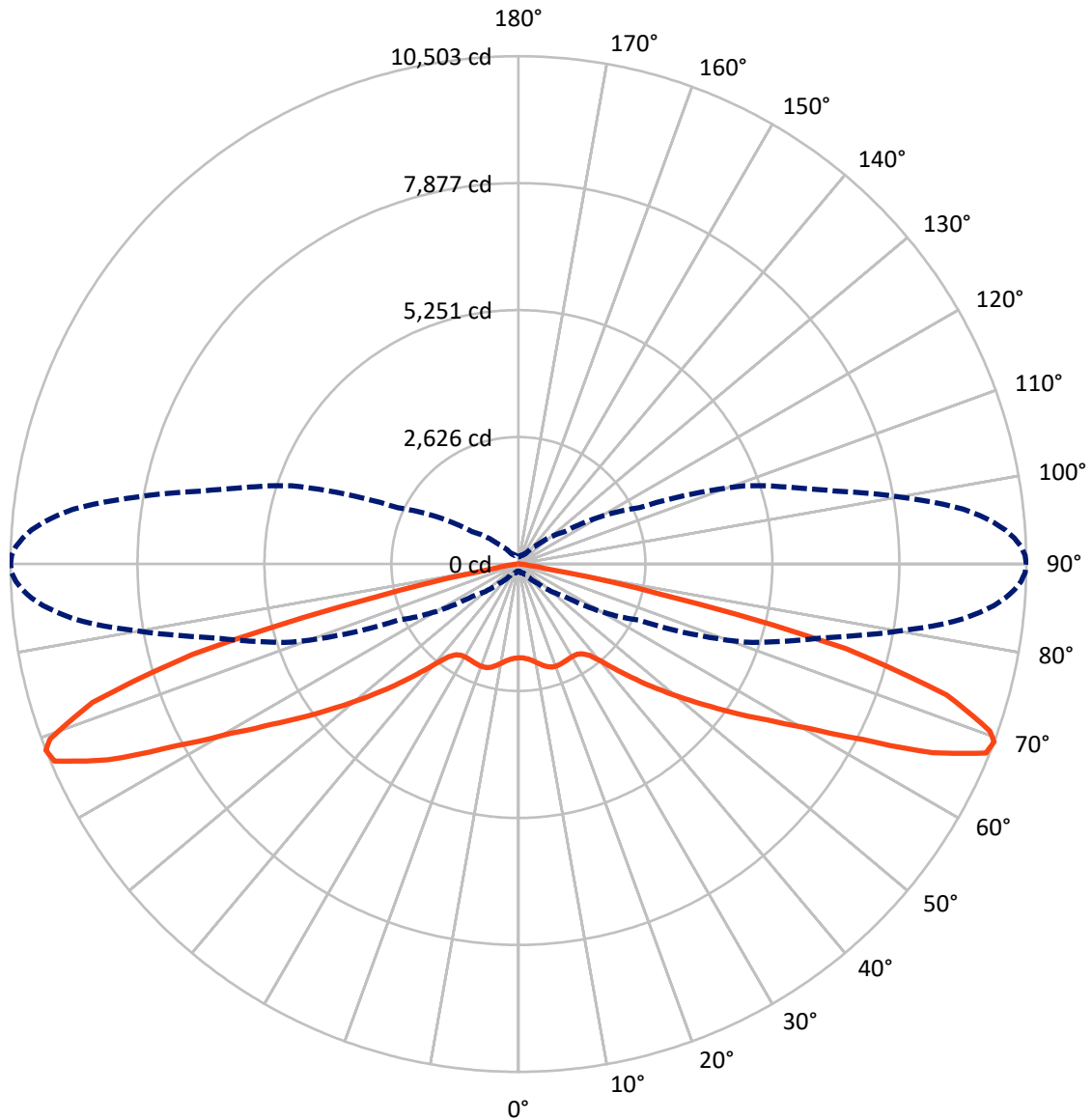
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5 fc
 Type I - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5070.1	0.0	5070.1
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5070.1	0.0	5070.1
	% Fixture	50.0	0.0	50.0
Total	Lumens	10140.3	0.0	10140.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.0	1.9
10°-20°	598.4	5.9
20°-30°	969.1	9.6
30°-40°	1207.2	11.9
40°-50°	1502.9	14.8
50°-60°	1844.1	18.2
60°-70°	2274.3	22.4
70°-80°	1413.9	13.9
80°-90°	140.4	1.4
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°	10140.3	100.0
0°-180°	10140.3	100.0



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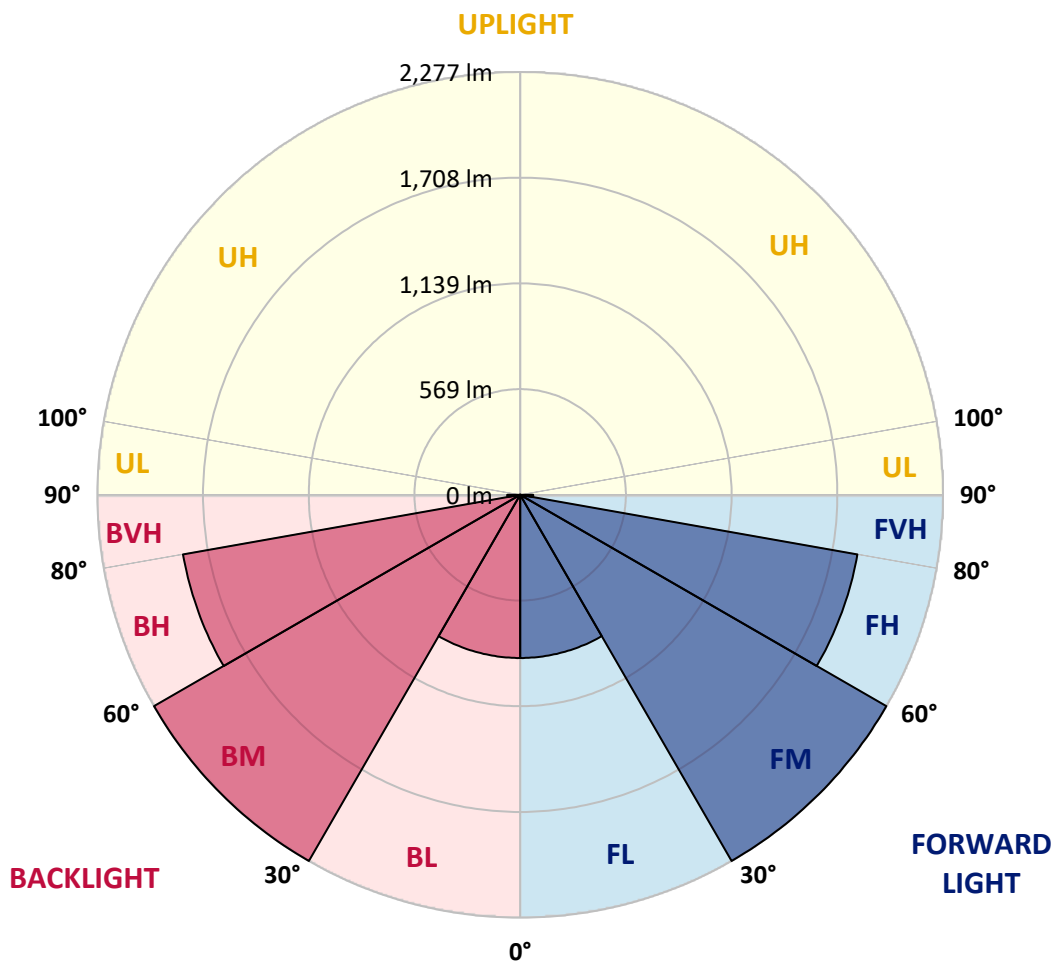
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	878.7	8.7			
FM	(30°-60°)	2277.1	22.5			
FH	(60°-80°)	1844.1	18.2			G2/5000
FVH	(80°-90°)	70.2	0.7			G1/100
BL	(0°-30°)	878.7	8.7	B2/1000		
BM	(30°-60°)	2277.1	22.5	B2/2500		
BH	(60°-80°)	1844.1	18.2	B3/2500		G3/2500
BVH	(80°-90°)	70.2	0.7			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type I Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9
2.5°	1946.9	1944.9	1948.6	1952.0	1951.0	1951.6	1950.3	1948.6	1948.7	1948.9	1949.0
5°	1962.1	1960.1	1963.4	1966.5	1967.5	1969.9	1970.6	1969.6	1970.0	1970.5	1971.0
7.5°	1980.4	1978.6	1983.0	1987.1	1994.8	1999.0	2003.0	2007.0	2007.3	2007.7	2008.0
10°	1997.6	1996.6	2003.6	2012.4	2024.9	2034.4	2045.8	2057.0	2057.9	2058.7	2059.6
12.5°	2008.7	2008.7	2019.5	2035.4	2057.0	2076.2	2095.8	2114.7	2116.5	2118.2	2120.0
15°	2008.0	2009.4	2025.9	2055.0	2092.1	2126.2	2150.1	2170.8	2172.4	2174.1	2175.8
17.5°	1994.2	1994.5	2018.2	2064.4	2122.4	2173.1	2204.2	2215.3	2215.9	2216.5	2217.1
20°	1955.4	1958.0	1991.5	2058.6	2146.1	2216.0	2245.4	2240.6	2239.6	2238.6	2237.6
22.5°	1888.8	1892.2	1936.8	2026.9	2150.5	2243.6	2274.0	2252.8	2249.5	2246.3	2243.1
25°	1796.4	1802.1	1850.4	1965.8	2120.8	2251.8	2292.6	2258.6	2253.5	2248.4	2243.3
27.5°	1689.3	1692.0	1749.1	1870.3	2051.6	2224.8	2301.0	2270.4	2264.0	2257.6	2251.3
30°	1565.4	1572.5	1632.0	1758.5	1954.0	2162.0	2297.7	2293.2	2286.2	2279.1	2272.0
32.5°	1442.2	1448.3	1506.7	1643.1	1841.6	2074.5	2280.8	2328.1	2322.2	2316.2	2310.3
35°	1318.0	1325.4	1385.5	1532.0	1729.8	1975.3	2254.1	2377.6	2375.1	2372.6	2370.0
37.5°	1208.9	1213.6	1272.7	1425.0	1631.9	1884.4	2219.4	2444.2	2450.0	2455.8	2461.6
40°	1097.8	1102.6	1164.4	1320.4	1541.8	1806.8	2187.3	2527.9	2543.8	2559.7	2575.5
42.5°	991.1	995.2	1055.0	1210.6	1441.6	1739.6	2168.0	2629.2	2659.6	2690.1	2720.6
45°	881.8	884.5	940.6	1092.1	1327.1	1661.3	2163.0	2743.0	2786.9	2830.9	2874.8
47.5°	774.1	780.5	838.2	982.0	1196.4	1549.2	2155.6	2868.9	2927.2	2985.4	3043.7
50°	671.2	678.2	737.7	874.0	1070.2	1416.2	2117.8	3011.7	3082.7	3153.8	3224.8
52.5°	566.1	573.2	632.7	763.0	953.0	1266.4	2012.4	3161.6	3246.1	3330.5	3415.0
55°	454.0	456.8	517.9	648.5	835.9	1140.8	1844.6	3299.0	3401.3	3503.6	3605.9
57.5°	330.2	339.3	399.8	521.2	716.3	1029.7	1631.2	3369.2	3496.9	3624.6	3752.3
60°	238.3	244.4	297.5	393.0	581.0	920.6	1441.9	3317.9	3488.3	3658.7	3829.1
62.5°	188.4	195.1	236.0	296.0	449.4	800.8	1318.3	3177.1	3416.2	3655.3	3894.4
65°	166.8	172.9	210.6	240.4	343.7	677.6	1240.7	3037.7	3360.4	3683.0	4005.7
67.5°	152.2	158.7	191.8	212.0	283.9	598.2	1203.8	2932.4	3305.0	3677.6	4050.3
69°	145.5	151.2	181.6	200.6	267.7	571.2	1164.4	2754.2	3123.6	3493.1	3862.5
70°	141.8	146.9	174.6	193.5	261.3	548.9	1106.0	2542.1	2898.6	3255.1	3611.6
72.5°	131.3	134.7	158.0	175.6	239.0	438.2	834.2	1793.6	2095.9	2398.1	2700.3
75°	116.4	120.5	141.1	157.3	182.3	263.3	522.2	1041.2	1248.2	1455.3	1662.4
77.5°	99.9	104.6	121.6	147.2	146.8	171.5	317.0	597.8	698.5	799.1	899.7
80°	85.7	89.8	105.0	145.5	122.9	135.7	236.3	446.0	486.5	527.0	567.5
82.5°	67.2	70.6	88.1	120.2	98.2	103.3	180.0	406.2	433.6	461.1	488.6
85°	42.2	43.6	64.2	83.0	69.9	62.4	115.8	312.6	332.6	352.6	372.6
87.5°	16.9	20.6	31.0	29.7	30.0	25.0	37.4	112.8	123.0	133.3	143.5
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):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9
2.5°	1949.2	1949.3	1948.6	1947.6	1948.6	1947.6	1948.0	1949.0	1948.6	1948.6	1947.9
5°	1971.4	1971.9	1971.9	1969.9	1970.8	1971.2	1971.6	1970.9	1971.2	1971.9	1970.6
7.5°	2008.4	2008.7	2009.8	2010.7	2010.0	2010.4	2011.0	2010.4	2009.4	2011.8	2010.0
10°	2060.5	2061.4	2061.4	2064.4	2063.0	2064.0	2067.1	2067.1	2065.4	2067.8	2067.1
12.5°	2121.7	2123.5	2123.2	2122.8	2124.2	2125.2	2128.6	2129.2	2129.9	2133.6	2132.2
15°	2177.5	2179.2	2180.5	2181.2	2183.6	2184.2	2186.3	2187.6	2188.6	2190.0	2190.7
17.5°	2217.7	2218.4	2220.4	2219.4	2222.8	2222.0	2224.4	2225.4	2226.4	2228.1	2229.1
20°	2236.6	2235.6	2235.9	2234.9	2234.9	2235.6	2235.9	2237.2	2236.6	2238.3	2239.6
22.5°	2239.8	2236.6	2234.6	2232.2	2231.1	2229.1	2229.1	2229.8	2227.4	2229.1	2231.1
25°	2238.3	2233.2	2229.5	2225.4	2221.7	2218.4	2216.4	2215.6	2214.0	2214.0	2215.6
27.5°	2245.0	2238.6	2233.2	2226.4	2221.7	2217.0	2212.6	2209.2	2205.8	2205.2	2205.2
30°	2264.9	2257.8	2251.8	2243.3	2235.9	2229.8	2223.8	2219.0	2212.6	2209.9	2206.8
32.5°	2304.3	2298.4	2289.9	2282.5	2273.7	2266.2	2258.2	2250.8	2243.3	2236.6	2233.9
35°	2367.4	2364.9	2360.1	2355.0	2346.6	2337.2	2330.4	2321.6	2313.2	2303.4	2300.8
37.5°	2467.4	2473.2	2470.6	2466.8	2464.5	2461.4	2452.3	2446.6	2440.9	2432.8	2431.0
40°	2591.4	2607.3	2623.1	2633.6	2629.9	2642.4	2644.4	2645.4	2640.4	2647.1	2648.4
42.5°	2751.0	2781.4	2810.2	2831.1	2855.4	2873.6	2897.2	2907.4	2926.6	2946.5	2958.0
45°	2918.8	2962.8	3004.0	3046.8	3089.0	3135.2	3180.1	3211.9	3258.2	3292.6	3314.2
47.5°	3102.0	3160.2	3209.6	3273.6	3334.8	3389.5	3468.1	3531.3	3587.6	3641.3	3697.7
50°	3295.8	3366.8	3427.6	3506.0	3580.2	3666.0	3758.2	3838.4	3927.0	4012.3	4088.2
52.5°	3499.5	3584.0	3666.0	3746.3	3836.4	3929.6	4029.6	4145.7	4251.6	4380.3	4472.5
55°	3708.2	3810.4	3897.9	3982.0	4077.5	4180.8	4299.6	4437.0	4571.8	4712.5	4852.2
57.5°	3880.0	4007.7	4103.2	4201.4	4304.4	4406.6	4554.2	4695.0	4865.8	5038.6	5213.5
60°	3999.5	4170.0	4285.8	4410.0	4529.2	4653.4	4812.4	4990.4	5204.0	5413.4	5651.0
62.5°	4133.5	4372.6	4535.0	4700.7	4845.5	4994.8	5207.5	5412.4	5686.8	5927.9	6227.0
65°	4328.4	4651.0	4890.1	5113.6	5308.0	5511.3	5763.4	6019.6	6333.6	6666.8	7042.0
67.5°	4422.9	4795.6	5108.5	5384.4	5632.8	5891.8	6152.0	6455.2	6809.0	7210.0	7622.0
69°	4232.0	4601.4	4961.3	5240.2	5501.8	5778.3	6056.8	6362.7	6711.0	7127.4	7563.8
70°	3968.1	4324.6	4707.2	4986.6	5250.6	5537.6	5821.2	6130.1	6463.2	6892.0	7333.6
72.5°	3002.5	3304.8	3676.0	3971.5	4249.0	4539.0	4831.0	5099.0	5437.0	5849.6	6256.3
75°	1869.5	2076.6	2410.4	2707.2	2930.4	3178.8	3453.0	3706.8	4046.1	4338.4	4729.7
77.5°	1000.3	1100.9	1295.7	1508.4	1632.6	1753.8	1932.4	2070.2	2213.0	2382.1	2543.8
80°	608.0	648.6	715.0	760.9	743.8	694.0	678.2	628.6	646.5	616.1	594.2
82.5°	516.0	543.5	584.0	611.8	591.4	512.1	422.4	355.4	308.2	263.0	223.5
85°	392.6	412.6	433.5	446.0	445.0	405.5	322.0	249.5	194.5	150.6	125.2
87.5°	153.8	164.0	179.2	176.9	184.7	186.0	145.5	112.4	80.0	54.0	47.2
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):

	80°	81°	82°	83°	84°	85°	86°	87°	88°	89°	90°
0°	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9	1941.9
2.5°	1946.6	1946.2	1946.6	1947.6	1947.6	1948.2	1947.6	1948.0	1947.0	1945.9	1946.6
5°	1970.6	1969.8	1970.6	1971.2	1971.2	1970.6	1972.2	1972.2	1971.6	1970.6	1970.9
7.5°	2011.8	2012.1	2011.0	2014.4	2011.4	2011.8	2013.8	2013.4	2012.7	2013.1	2013.4
10°	2069.1	2068.8	2069.4	2071.5	2068.4	2070.4	2072.9	2073.5	2071.8	2071.8	2072.2
12.5°	2132.6	2135.3	2135.6	2137.0	2137.0	2138.6	2139.0	2139.4	2140.7	2141.0	2139.0
15°	2193.4	2195.4	2196.8	2198.1	2196.4	2198.8	2201.4	2201.5	2201.2	2202.5	2200.5
17.5°	2230.9	2232.6	2234.8	2234.6	2234.9	2237.0	2238.6	2239.2	2240.0	2240.0	2240.3
20°	2242.6	2243.6	2245.0	2246.4	2247.0	2249.0	2250.4	2251.4	2252.1	2251.4	2251.8
22.5°	2233.2	2234.6	2237.2	2238.2	2238.6	2241.6	2243.0	2244.0	2244.6	2245.4	2244.3
25°	2217.0	2218.4	2221.0	2222.1	2222.8	2225.4	2227.2	2229.5	2230.1	2230.5	2230.8
27.5°	2205.8	2206.6	2208.6	2209.9	2210.2	2213.3	2215.6	2217.3	2217.7	2218.0	2218.0
30°	2206.2	2206.2	2208.6	2208.9	2208.6	2211.3	2212.6	2213.6	2214.3	2214.3	2214.6
32.5°	2229.4	2228.1	2230.2	2227.1	2227.4	2227.1	2226.8	2227.8	2227.2	2227.4	2226.1
35°	2295.4	2291.6	2288.6	2289.9	2285.2	2278.4	2282.2	2280.4	2276.8	2277.1	2278.1
37.5°	2421.6	2417.9	2421.2	2418.2	2419.2	2409.8	2412.1	2403.7	2401.4	2404.4	2395.6
40°	2645.8	2644.0	2650.5	2647.8	2649.4	2652.2	2654.5	2646.4	2632.9	2645.0	2645.4
42.5°	2956.4	2971.5	2977.6	2986.0	2995.2	2991.1	2999.2	3001.6	2986.7	2997.8	3000.6
45°	3345.9	3362.1	3381.0	3386.8	3401.6	3403.6	3409.7	3411.4	3398.0	3399.2	3402.3
47.5°	3754.1	3783.8	3806.1	3821.6	3837.2	3840.2	3843.6	3837.2	3838.2	3841.2	3841.2
50°	4155.2	4218.6	4258.1	4288.8	4315.5	4301.6	4313.4	4314.5	4318.6	4310.1	4315.2
52.5°	4576.8	4660.8	4727.0	4778.6	4794.9	4844.2	4823.9	4839.5	4850.0	4834.4	4844.5
55°	4988.6	5108.5	5214.8	5289.8	5342.4	5392.4	5400.2	5440.4	5435.6	5450.8	5444.1
57.5°	5380.2	5547.8	5699.7	5810.7	5886.4	5962.6	6014.3	6058.2	6062.6	6106.1	6081.5
60°	5853.9	6087.2	6282.7	6448.1	6559.8	6673.3	6762.8	6834.6	6851.2	6925.8	6901.1
62.5°	6493.0	6777.6	7027.4	7221.6	7470.3	7590.2	7764.4	7873.1	7940.9	7959.5	7994.3
65°	7391.4	7762.1	8091.5	8402.1	8682.0	8876.1	9077.6	9239.7	9369.6	9358.8	9412.2
67.5°	8058.8	8481.4	8878.1	9250.5	9551.6	9801.4	10033.0	10208.2	10324.3	10398.3	10429.7
69°	7989.2	8443.0	8880.4	9278.2	9588.8	9868.0	10093.4	10266.0	10399.0	10479.3	10502.6
70°	7757.9	8224.2	8680.2	9070.6	9387.2	9693.8	9923.3	10115.4	10242.0	10329.8	10343.3
72.5°	6710.4	7215.4	7618.9	8044.6	8349.4	8659.7	8804.2	9042.2	9207.2	9260.6	9259.6
75°	5061.2	5482.5	5837.0	6151.7	6424.5	6634.8	6703.0	6872.4	7009.5	7007.8	6995.0
77.5°	2725.4	2824.6	2957.4	3001.9	3086.0	3084.6	3000.2	3026.9	3104.6	2954.0	3002.6
80°	584.8	575.9	568.5	564.1	561.8	562.8	565.8	546.6	565.5	557.0	521.2
82.5°	203.5	198.9	194.1	197.5	195.1	197.2	196.4	198.9	198.5	197.9	193.1
85°	114.4	110.4	108.0	109.8	106.0	102.6	100.3	99.3	98.9	96.6	95.2
87.5°	43.6	43.2	42.8	41.2	37.1	34.1	32.1	28.0	26.3	24.0	22.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)