

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: McGRAW-EDISON

Report Number: P522200

Luminaire Tested: **CTN-CA8-230-722-U-T5R-HSS-HM-EX90**

Issue Date: 5/10/2021

Test Information

Test Method: LM-79-08
Report Number: P522200
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-894-5)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: CTN-CA8-230-722-U-T5R-HSS-HM-EX90
Description: CELESTEON HIGH MAST LUMINAIRE
Light Source: (8) 2200K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24736.9 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Luminous Opening: Circular (Dia: 2.08' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B4 - U1 - G4

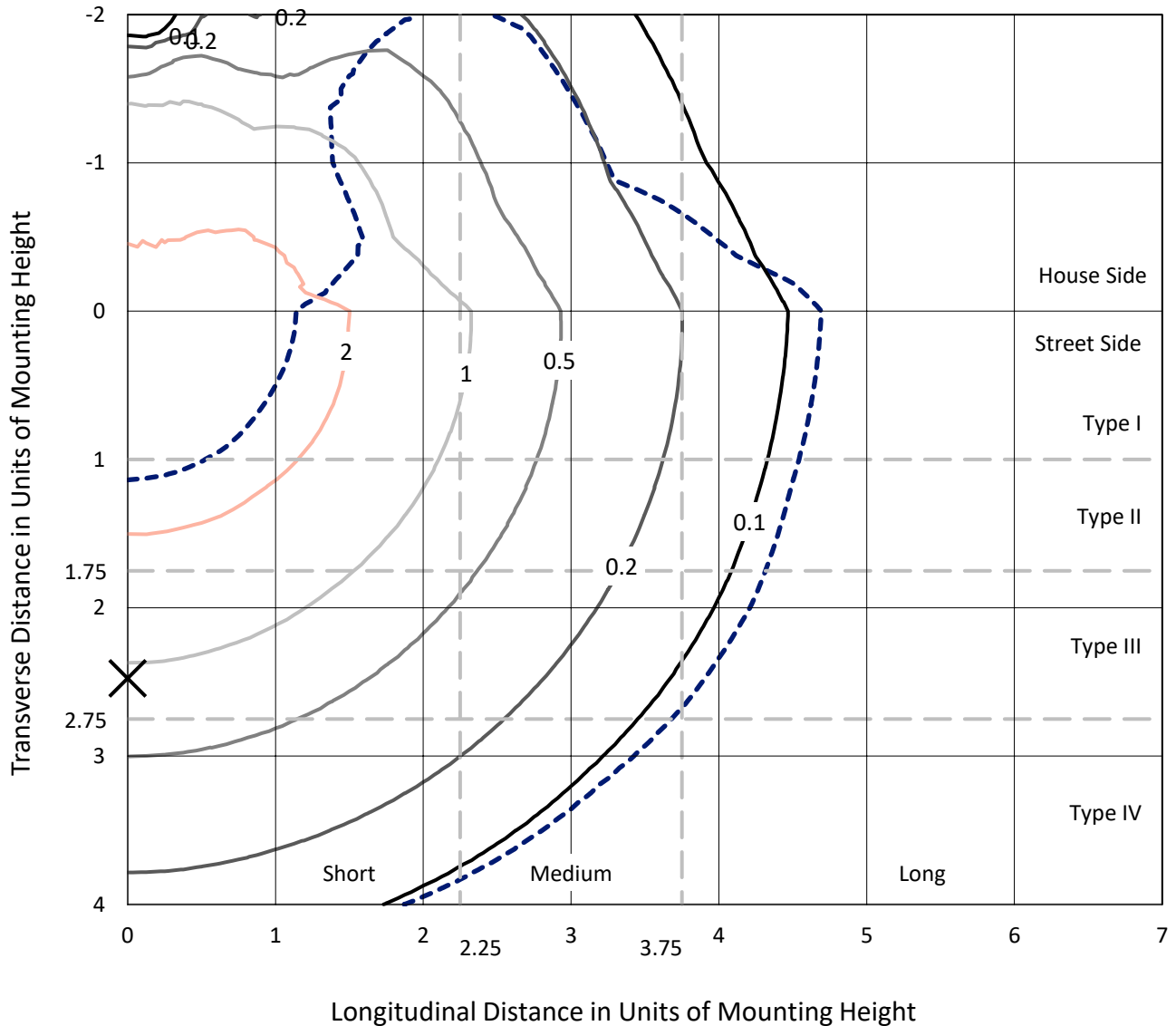
Input Watts (W): 228.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

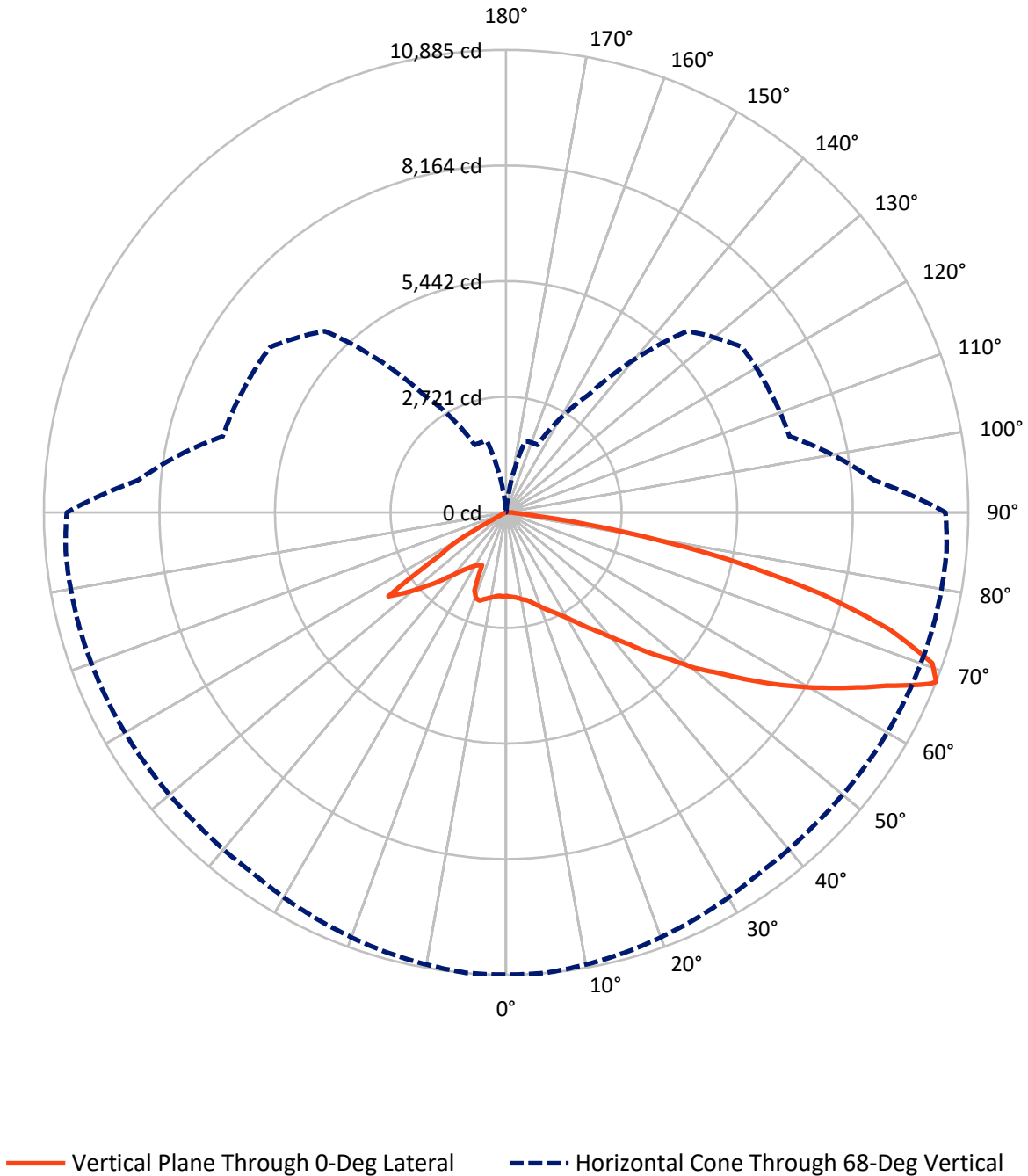
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.2 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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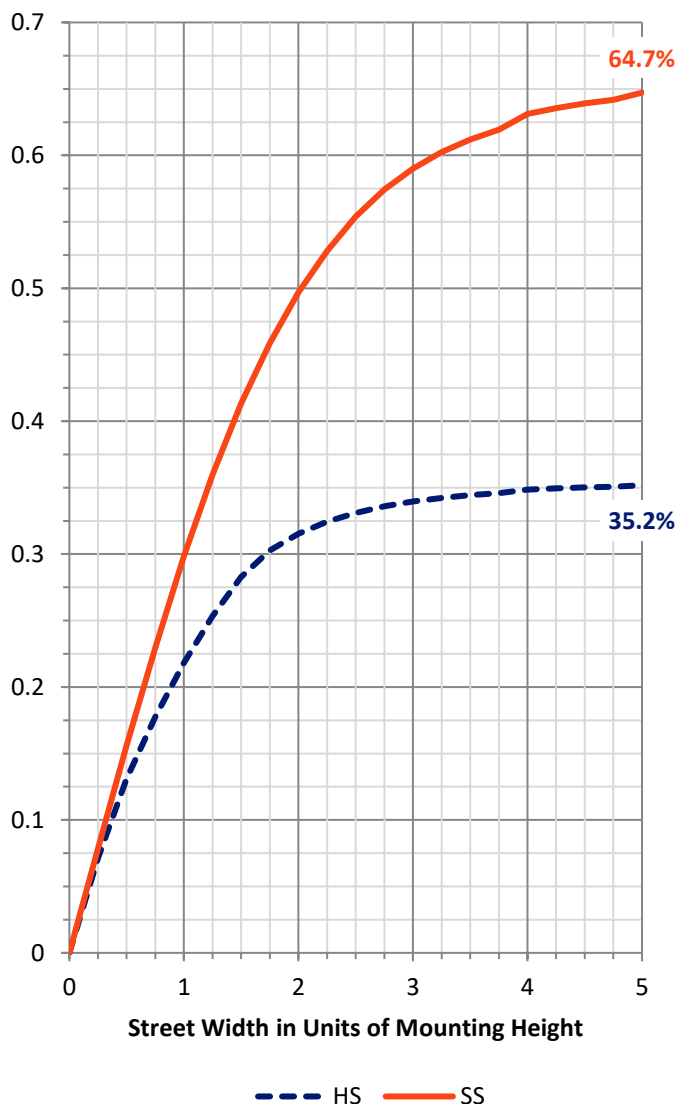
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	8705.7	1.5	8707.2
	% Fixture	35.2	0.0	35.2
Street Side	Lumens	16023.2	6.5	16029.7
	% Fixture	64.8	0.0	64.8
Total	Lumens	24729.0	8.0	24736.9
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.5	0.8
10°-20°	610.2	2.5
20°-30°	1089.3	4.4
30°-40°	1772.1	7.2
40°-50°	3026.2	12.2
50°-60°	5049.3	20.4
60°-70°	7024.6	28.4
70°-80°	5445.1	22.0
80°-90°	521.8	2.1
90°-100°	6.3	0.0
100°-110°	0.5	0.0
110°-120°	0.3	0.0
120°-130°	0.2	0.0
130°-140°	0.2	0.0
140°-150°	0.2	0.0
150°-160°	0.2	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-90°	24729.0	100.0
0°-180°	24736.9	100.0

Coefficient of Utilization



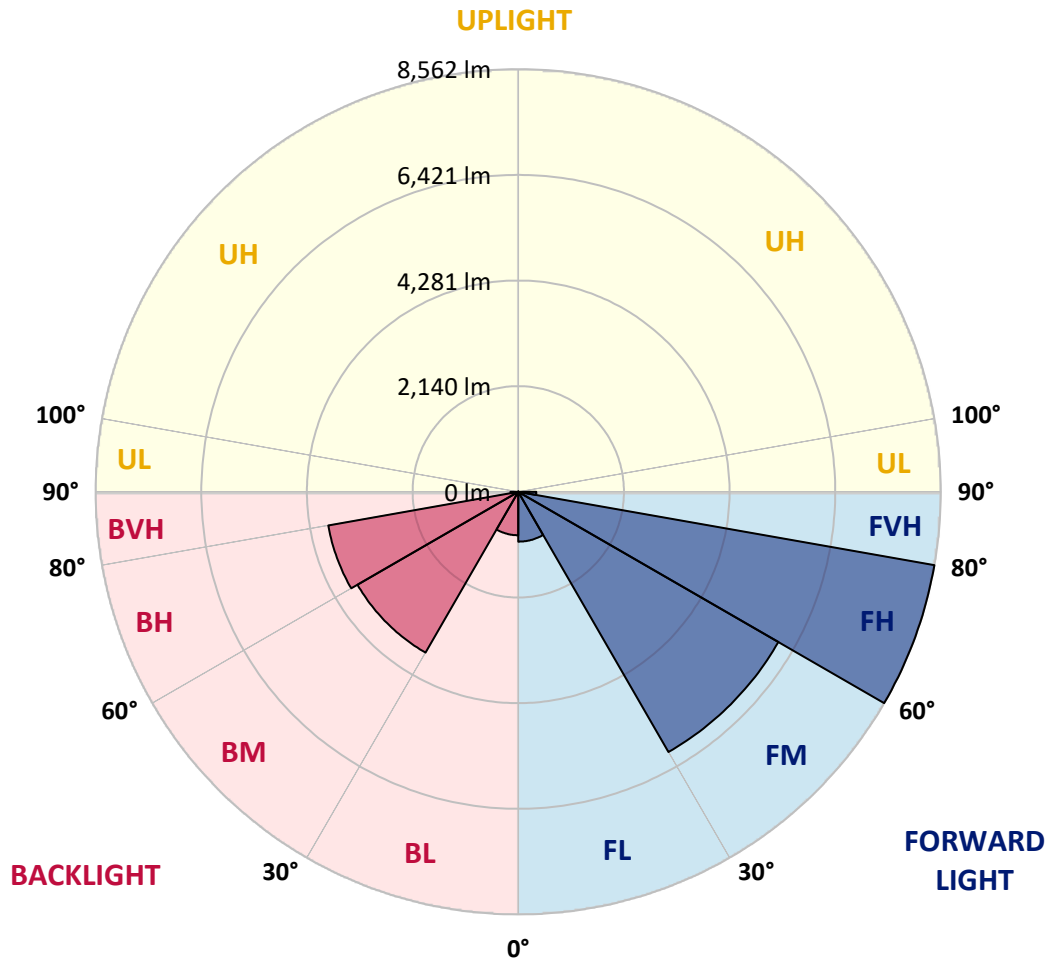
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1009.6	4.1			
FM (30°-60°)	6087.0	24.6			
FH (60°-80°)	8561.6	34.6			G4/12000
FVH (80°-90°)	365.0	1.5			G3/500
BL (0°-30°)	880.3	3.6	B2/1000		
BM (30°-60°)	3760.5	15.2	B3/5000		
BH (60°-80°)	3908.2	15.8	B4/5000		G4/5000
BVH (80°-90°)	156.7	0.6			G2/225
UL (90°-100°)	6.3	0.0		U1/10	
UH (100°-180°)	1.7	0.0		U1/10	

BUG Rating: B4-U1-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1968.6	1968.6	1968.6	1968.6	1968.6	1968.6	1968.6	1968.6	1968.6	1968.6	1968.6
2.5°	1991.0	1988.2	1986.3	1998.4	1964.0	1978.0	1968.6	1980.7	1978.0	1983.5	1984.5
5°	2004.9	2000.3	1993.8	2006.8	1986.3	1995.6	1985.4	1991.0	1973.3	1988.2	1990.1
7.5°	2036.6	2023.6	2022.6	2026.4	2012.4	2018.9	2001.2	2007.7	1998.4	1992.8	1998.4
10°	2084.1	2072.9	2060.8	2068.2	2045.0	2053.4	2034.7	2040.3	2035.7	2023.6	2034.7
12.5°	2116.6	2120.4	2112.0	2117.6	2097.1	2089.7	2083.1	2082.2	2079.4	2061.7	2058.9
15°	2189.2	2191.1	2176.2	2179.9	2175.3	2171.6	2162.3	2154.8	2139.9	2128.7	2121.3
17.5°	2284.2	2274.0	2260.0	2263.7	2276.7	2260.0	2254.4	2240.4	2219.0	2200.4	2196.7
20°	2383.8	2377.3	2364.2	2371.7	2370.8	2359.6	2362.4	2339.1	2308.4	2292.6	2280.5
22.5°	2494.6	2485.2	2475.9	2489.9	2478.7	2471.3	2468.5	2452.7	2414.5	2396.8	2394.0
25°	2605.3	2600.7	2607.2	2602.5	2586.7	2581.1	2584.8	2579.3	2534.6	2513.2	2500.1
27.5°	2744.0	2732.8	2743.1	2737.5	2720.7	2721.7	2722.6	2723.5	2673.3	2645.3	2626.7
30°	2902.2	2898.5	2911.6	2893.9	2878.0	2888.3	2896.7	2878.0	2834.3	2793.3	2786.8
32.5°	3108.0	3084.7	3099.6	3077.2	3053.0	3077.2	3092.1	3054.9	3019.5	2967.4	2976.7
35°	3336.0	3328.6	3328.6	3299.7	3286.7	3324.8	3339.7	3303.4	3248.5	3202.9	3191.7
37.5°	3578.0	3585.5	3608.7	3596.6	3584.5	3607.8	3641.3	3592.9	3522.2	3473.8	3460.7
40°	3899.1	3917.8	3933.6	3917.8	3903.8	3918.7	3956.8	3893.5	3844.2	3818.2	3790.2
42.5°	4244.5	4276.1	4265.9	4267.7	4279.8	4301.2	4339.4	4281.7	4224.9	4224.0	4183.0
45°	4711.7	4711.7	4690.3	4710.8	4708.9	4762.0	4778.7	4747.1	4699.6	4685.7	4650.3
47.5°	5148.3	5193.9	5185.5	5215.3	5192.0	5236.7	5293.5	5266.5	5211.6	5162.2	5154.8
50°	5757.0	5745.8	5734.7	5779.4	5775.6	5806.3	5858.5	5841.7	5765.4	5709.5	5699.3
52.5°	6292.2	6350.9	6336.9	6403.9	6366.7	6410.4	6472.8	6470.0	6376.9	6322.0	6306.2
55°	6968.0	7007.1	7004.3	7073.2	7022.0	7079.7	7131.8	7137.4	7035.9	6957.8	6982.0
57.5°	7671.7	7704.3	7685.6	7742.4	7692.2	7771.3	7802.9	7782.4	7722.9	7624.2	7660.5
60°	8376.3	8404.2	8425.6	8430.3	8401.4	8448.0	8477.8	8495.4	8401.4	8288.8	8332.5
62.5°	9092.1	9123.7	9105.1	9112.6	9032.5	9095.8	9133.0	9137.7	9029.7	8930.1	8960.8
65°	9846.0	9889.8	9822.8	9778.1	9679.4	9678.5	9727.8	9736.2	9659.9	9589.1	9577.0
67.5°	10779.6	10799.2	10655.8	10506.0	10339.4	10303.1	10337.5	10357.0	10400.8	10398.9	10344.0
68°	10884.8	10881.1	10735.9	10557.2	10378.5	10336.6	10353.3	10378.5	10407.3	10412.9	10346.8
70°	10645.6	10600.0	10517.1	10291.9	10115.0	10005.2	9946.6	9993.1	9914.9	9915.8	9792.0
72.5°	9456.0	9450.4	9297.8	9186.1	9028.8	8846.4	8762.6	8761.6	8769.1	8715.1	8587.6
75°	7659.6	7667.0	7489.2	7412.0	7363.6	7329.1	7346.8	7401.7	7407.3	7406.4	7361.7
77.5°	5341.9	5372.6	5325.1	5199.5	5334.4	5449.9	5672.3	5785.9	5749.6	5858.5	5927.4
80°	2799.9	2861.3	2863.2	2951.6	3060.5	3165.7	3357.4	3529.6	3403.0	3347.2	3289.5
82.5°	736.3	758.6	792.1	740.9	756.7	772.6	921.5	907.5	837.7	875.0	930.8
85°	210.4	216.9	207.6	188.0	172.2	158.2	162.0	136.8	119.1	118.2	114.5
87.5°	148.0	159.2	140.6	121.0	108.9	101.5	97.7	82.8	67.0	58.6	46.5
90°	68.9	67.9	58.6	45.6	40.0	38.2	38.2	29.8	16.8	10.2	9.3
92.5°	28.9	29.8	24.2	19.5	16.8	13.0	10.2	6.5	3.7	1.9	0.9
95°	10.2	11.2	9.3	7.4	6.5	5.6	4.7	3.7	1.9	0.9	0.9
97.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	1.9	1.9	0.9	0.9
100°	0.0	0.0	0.0	0.9	1.9	1.9	1.9	1.9	0.9	0.9	0.9
102.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
105°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
165°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
167.5°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
170°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
172.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
175°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
177.5°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
180°	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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1968.6	1968.6	1968.6	1968.6	1968.6	1968.6	1968.6	1968.6	1968.6	1968.6
2.5°	1982.6	1978.0	1976.1	1952.8	1959.3	1945.4	1978.0	1968.6	1966.8	1979.8
5°	1987.3	1965.9	1978.9	1964.0	1967.7	1947.2	1973.3	1962.1	1963.1	1969.6
7.5°	1990.1	1978.0	1991.0	1964.9	1975.2	1967.7	1986.3	1975.2	1986.3	1991.9
10°	2018.0	2012.4	2003.1	1995.6	2003.1	1985.4	2008.7	2006.8	2013.3	2030.1
12.5°	2056.1	2049.6	2040.3	2027.3	2032.9	2026.4	2044.0	2045.9	2058.0	2066.4
15°	2112.9	2104.5	2099.9	2086.9	2088.7	2084.1	2094.3	2096.2	2120.4	2117.6
17.5°	2193.0	2183.7	2187.4	2175.3	2170.6	2159.5	2140.8	2134.3	2163.2	2171.6
20°	2280.5	2270.2	2274.9	2264.6	2178.1	2002.2	2120.4	2201.3	2139.9	2135.3
22.5°	2380.1	2368.9	2372.6	2356.8	2249.8	1920.2	1670.8	1650.3	1884.9	1979.8
25°	2489.9	2475.0	2473.1	2452.7	2100.8	1738.7	1710.8	1674.5	1503.2	1367.3
27.5°	2625.8	2603.5	2592.3	2283.3	2085.9	1806.7	1764.8	1635.4	1386.9	1395.3
30°	2772.9	2740.3	2530.9	2327.0	2194.8	1886.7	1830.9	1433.4	1435.3	1431.6
32.5°	2940.4	2867.8	2479.7	2461.0	2325.1	1972.4	1520.0	1503.2	1505.1	1510.7
35°	3160.1	2662.1	2651.9	2652.8	2484.3	1908.1	1610.3	1594.5	1596.3	1600.1
37.5°	3206.6	2869.7	2871.5	2850.1	2653.7	1743.4	1720.1	1719.2	1715.5	1711.7
40°	3243.8	3131.2	3104.2	3069.8	2460.1	1877.4	1870.0	1864.4	1867.2	1874.6
42.5°	3535.2	3450.5	3424.4	3383.5	2523.4	2080.3	2056.1	2049.6	2057.1	2053.4
45°	3922.4	3851.7	3800.5	3128.4	2787.8	2300.9	2281.4	2273.0	2275.8	2299.1
47.5°	4332.0	4290.1	4133.7	3379.7	3095.9	2561.6	2542.0	2529.0	2533.6	2528.1
50°	4777.8	4739.6	3826.5	3758.6	3436.5	2842.7	2813.8	2809.2	2811.0	2810.1
52.5°	5261.8	4464.1	4240.7	4170.0	3795.8	3136.8	3126.6	3101.4	3107.0	3101.4
55°	5829.6	4702.4	4696.8	4614.0	4199.8	3478.4	3466.3	3430.9	3208.5	3403.0
57.5°	6368.6	5157.6	5157.6	5077.5	4613.1	3818.2	3798.6	3772.5	2280.5	1839.3
60°	6958.7	5613.7	5600.6	5534.6	5011.4	4142.1	3366.7	3359.3	1377.6	1382.2
62.5°	7468.8	6020.4	6043.7	5982.3	5394.9	3101.4	1560.0	1528.4	135.9	209.4
65°	8040.3	6470.0	6497.9	6434.6	5810.1	3289.5	1693.1	1677.3	30.7	27.9
67.5°	8688.1	6918.7	6855.4	6785.6	6053.0	3387.2	1759.2	1745.3	8.4	5.6
68°	8693.7	6909.4	6827.4	6780.0	6029.7	3368.6	1753.6	1740.6	8.4	5.6
70°	8246.9	6561.2	6479.3	6491.4	5741.2	3221.5	1681.0	1656.8	8.4	5.6
72.5°	7235.1	5838.9	5746.8	5681.6	5091.5	2864.1	1507.0	1461.4	8.4	5.6
75°	6190.8	4948.1	4795.5	4652.2	4096.5	2343.8	1236.1	1184.9	8.4	5.6
77.5°	4879.3	3771.6	3554.7	3460.7	3078.2	1731.3	918.7	862.9	8.4	4.7
80°	2696.5	2164.1	1979.8	1922.1	1760.1	1017.4	526.8	493.3	7.4	4.7
82.5°	697.2	523.1	456.1	440.3	413.3	241.1	128.5	121.9	6.5	3.7
85°	99.6	73.5	81.0	95.9	92.1	62.4	44.7	38.2	5.6	2.8
87.5°	52.1	43.7	51.2	57.7	58.6	36.3	18.6	10.2	2.8	0.0
90°	8.4	8.4	9.3	10.2	10.2	4.7	3.7	0.0	0.0	0.0
92.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.9	1.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)