

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: P522203

Luminaire Tested: **CTN-CA8-230-727-U-T5R-HSS-HM-EX90**

Issue Date: 5/10/2021

Test Information

Test Method: LM-79-08
Report Number: P522203
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-CA8-230-727-U-T5R-HSS-HM-EX90
Description: CELESTEON HIGH MAST LUMINAIRE
Light Source: (8) 2700K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25702.1 lumens
Efficiency: N/A
Efficacy: 112.5 lumens/watt
Luminous Opening: Circular (Dia: 2.08' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B4 - U1 - G4

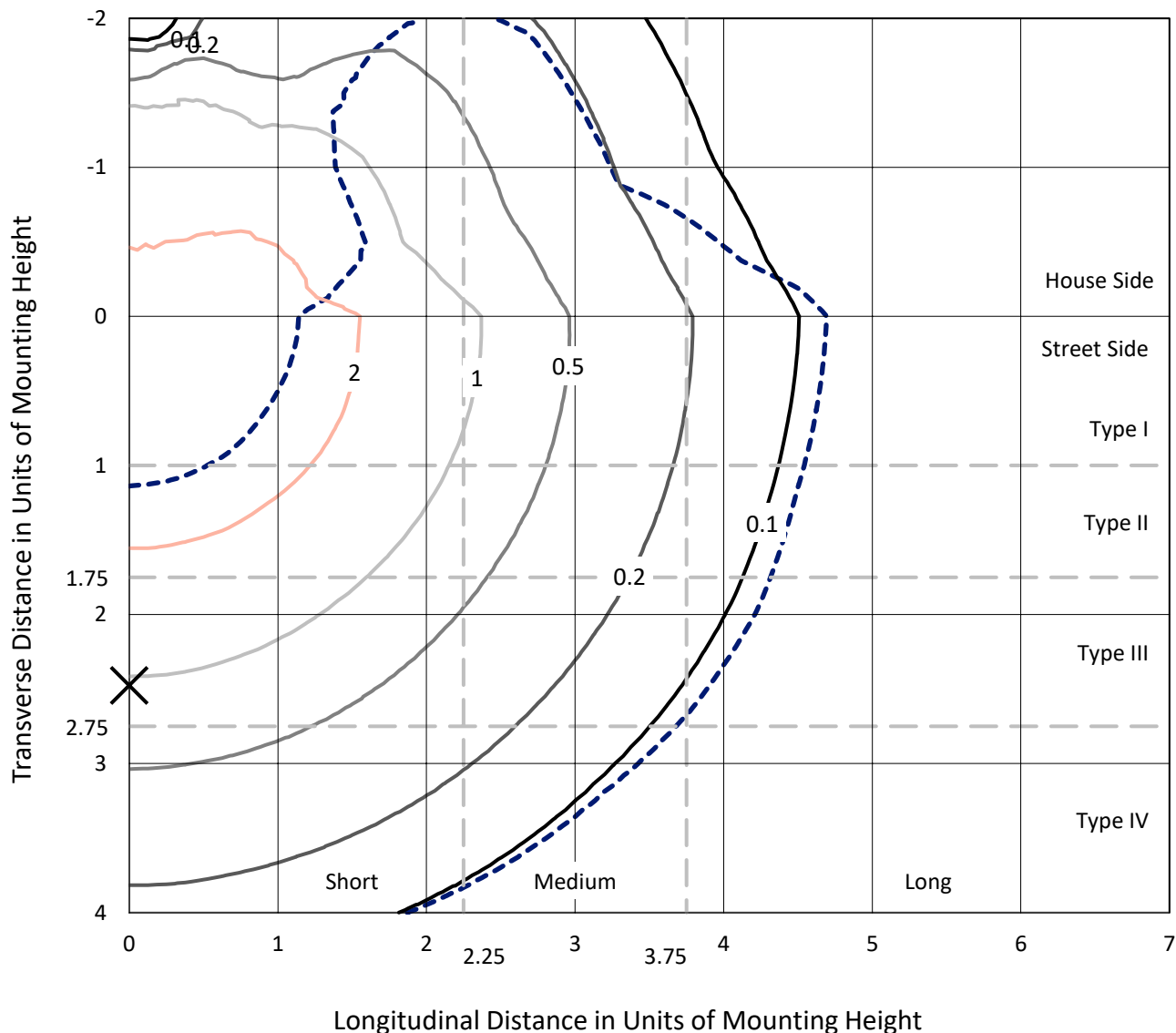
Input Watts (W): 228.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

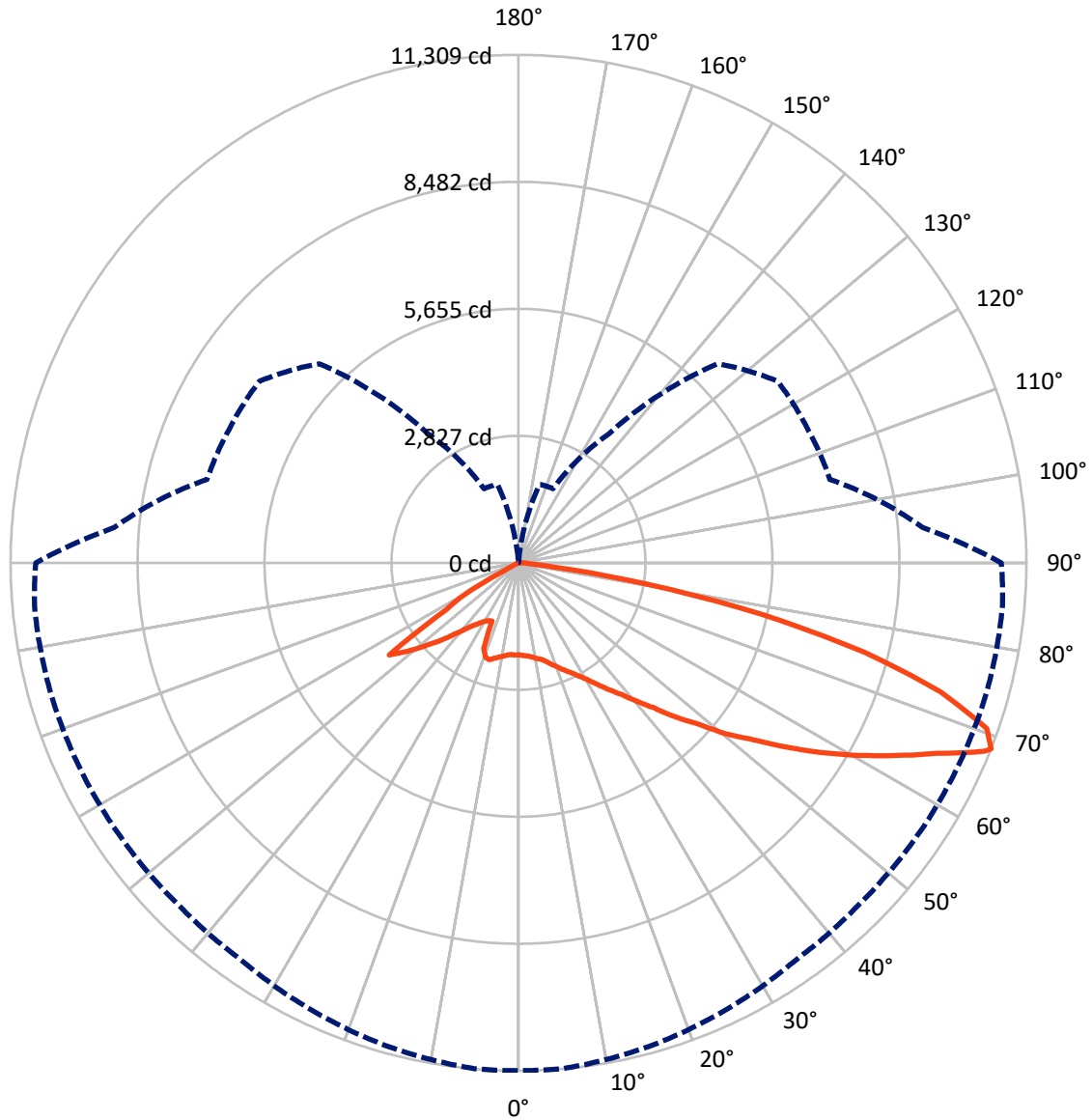
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.3 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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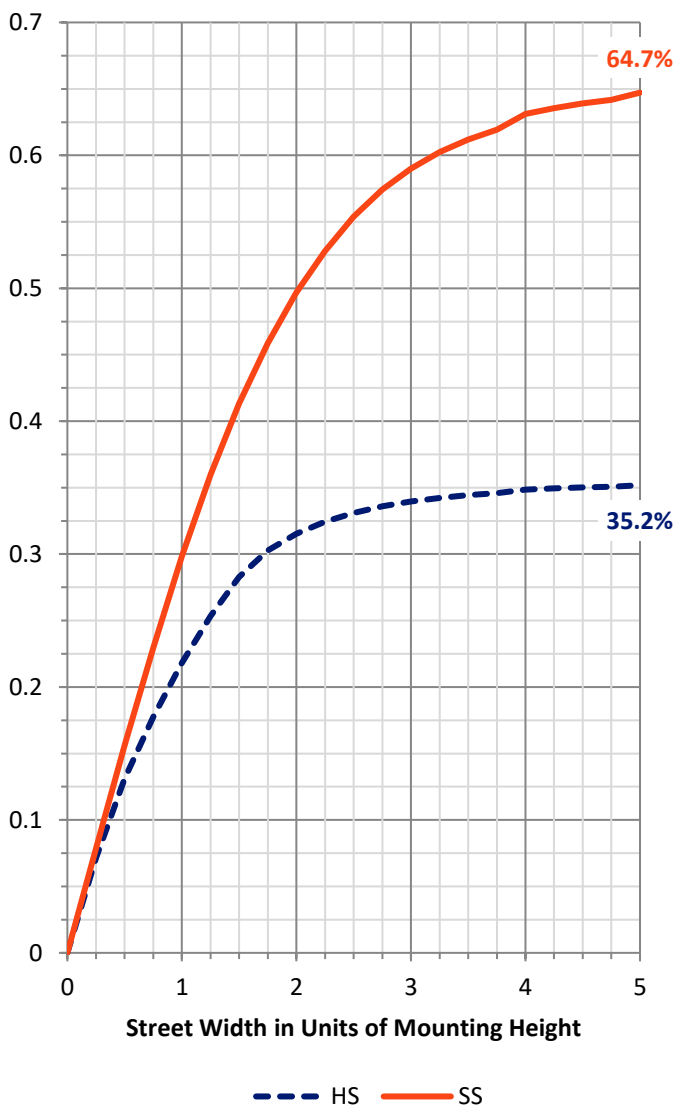
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	9045.3	1.6	9046.9
	% Fixture	35.2	0.0	35.2
Street Side	Lumens	16648.3	6.8	16655.1
	% Fixture	64.8	0.0	64.8
Total	Lumens	25693.7	8.4	25702.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.9	0.8
10°-20°	634.0	2.5
20°-30°	1131.8	4.4
30°-40°	1841.2	7.2
40°-50°	3144.2	12.2
50°-60°	5246.3	20.4
60°-70°	7298.6	28.4
70°-80°	5657.6	22.0
80°-90°	542.1	2.1
90°-100°	6.6	0.0
100°-110°	0.6	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°	25693.7	100.0
0°-180°	25702.1	100.0

Coefficient of Utilization

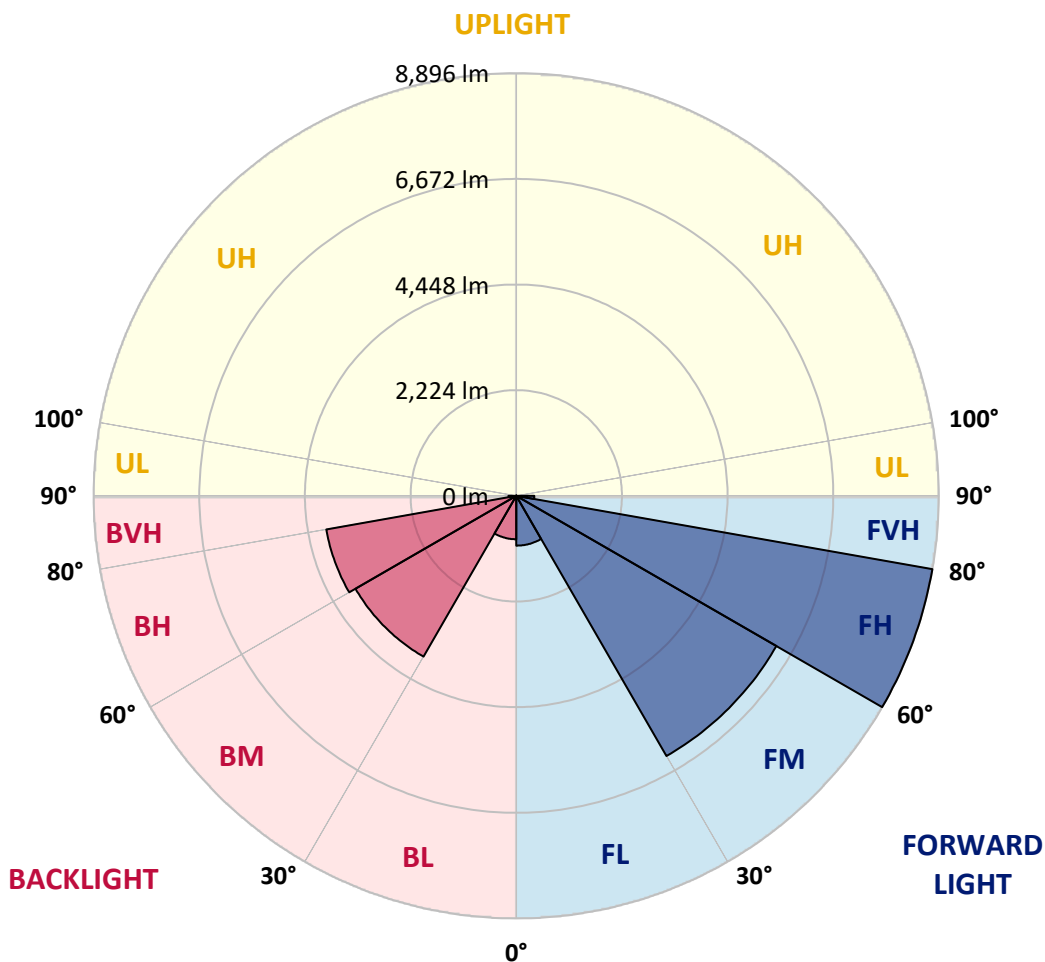


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1049.0	4.1			
FM (30°-60°)	6324.5	24.6			
FH (60°-80°)	8895.6	34.6			G4/12000
FVH (80°-90°)	379.3	1.5			G3/500
BL (0°-30°)	914.7	3.6	B2/1000		
BM (30°-60°)	3907.2	15.2	B3/5000		
BH (60°-80°)	4060.6	15.8	B4/5000		G4/5000
BVH (80°-90°)	162.9	0.6			G2/225
UL (90°-100°)	6.6	0.0		U1/10	
UH (100°-180°)	1.8	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°	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4
2.5°	2068.7	2065.8	2063.8	2076.4	2040.6	2055.1	2045.4	2058.0	2055.1	2060.9	2061.9
5°	2083.2	2078.3	2071.6	2085.1	2063.8	2073.5	2062.9	2068.7	2050.3	2065.8	2067.7
7.5°	2116.0	2102.5	2101.5	2105.4	2090.9	2097.7	2079.3	2086.1	2076.4	2070.6	2076.4
10°	2165.4	2153.8	2141.2	2148.9	2124.7	2133.5	2114.1	2119.9	2115.1	2102.5	2114.1
12.5°	2199.2	2203.1	2194.4	2200.2	2178.9	2171.2	2164.4	2163.4	2160.5	2142.2	2139.3
15°	2274.7	2276.6	2261.1	2265.0	2260.1	2256.3	2246.6	2238.9	2223.4	2211.8	2204.1
17.5°	2373.3	2362.7	2348.2	2352.0	2365.6	2348.2	2342.4	2327.8	2305.6	2286.3	2282.4
20°	2476.8	2470.0	2456.5	2464.2	2463.2	2451.6	2454.5	2430.4	2398.4	2382.0	2369.4
22.5°	2591.9	2582.2	2572.5	2587.0	2575.4	2567.7	2564.8	2548.3	2508.7	2490.3	2487.4
25°	2707.0	2702.1	2708.9	2704.1	2687.6	2681.8	2685.7	2679.9	2633.5	2611.2	2597.7
27.5°	2851.1	2839.4	2850.1	2844.3	2826.9	2827.8	2828.8	2829.8	2777.6	2748.5	2729.2
30°	3015.5	3011.6	3025.1	3006.8	2990.3	3001.0	3009.7	2990.3	2944.9	2902.3	2895.5
32.5°	3229.2	3205.0	3220.5	3197.3	3172.1	3197.3	3212.8	3174.1	3137.3	3083.2	3092.8
35°	3466.1	3458.4	3458.4	3428.4	3414.9	3454.5	3470.0	3432.3	3375.2	3327.8	3316.2
37.5°	3717.6	3725.3	3749.5	3736.9	3724.4	3748.5	3783.4	3733.1	3659.6	3609.3	3595.7
40°	4051.2	4070.6	4087.0	4070.6	4056.1	4071.6	4111.2	4045.4	3994.2	3967.1	3938.1
42.5°	4410.0	4442.9	4432.3	4434.2	4446.8	4469.0	4508.7	4448.7	4389.7	4388.8	4346.2
45°	4895.5	4895.5	4873.3	4894.6	4892.6	4947.8	4965.2	4932.3	4883.0	4868.5	4831.7
47.5°	5349.1	5396.5	5387.8	5418.7	5394.6	5441.0	5500.0	5471.9	5414.9	5363.6	5355.9
50°	5981.6	5970.0	5958.4	6004.8	6000.9	6032.9	6087.0	6069.6	5990.3	5932.3	5921.6
52.5°	6537.7	6598.6	6584.1	6653.7	6615.1	6660.5	6725.3	6722.4	6625.7	6568.6	6552.2
55°	7239.8	7280.4	7277.5	7349.1	7295.9	7355.9	7410.0	7415.8	7310.4	7229.2	7254.3
57.5°	7971.0	8004.8	7985.5	8044.5	7992.2	8074.4	8107.3	8086.0	8024.1	7921.6	7959.3
60°	8703.1	8732.1	8754.3	8759.2	8729.2	8777.5	8808.5	8826.9	8729.2	8612.2	8657.6
62.5°	9446.8	9479.7	9460.3	9468.0	9384.9	9450.6	9489.3	9494.2	9382.0	9278.5	9310.4
65°	10230.1	10275.6	10206.0	10159.5	10057.0	10056.1	10107.3	10116.0	10036.7	9963.2	9950.6
67.5°	11200.1	11220.5	11071.5	10915.8	10742.7	10705.0	10740.8	10761.1	10806.5	10804.6	10747.5
68°	11309.4	11305.6	11154.7	10969.0	10783.3	10739.8	10757.2	10783.3	10813.3	10819.1	10750.4
70°	11060.9	11013.5	10927.4	10693.4	10509.6	10395.5	10334.6	10382.9	10301.7	10302.7	10174.0
72.5°	9824.9	9819.1	9660.5	9544.4	9381.0	9191.5	9104.4	9103.4	9111.2	9055.1	8922.6
75°	7958.4	7966.1	7781.4	7701.1	7650.8	7615.1	7633.4	7690.5	7696.3	7695.3	7648.9
77.5°	5550.3	5582.2	5532.9	5402.3	5542.5	5662.5	5893.6	6011.6	5973.9	6087.0	6158.6
80°	2909.1	2972.9	2974.8	3066.7	3179.9	3289.2	3488.4	3667.3	3535.8	3477.7	3417.8
82.5°	765.0	788.2	823.0	769.8	786.3	802.7	957.4	942.9	870.4	909.1	967.1
85°	218.6	225.3	215.7	195.4	178.9	164.4	168.3	142.2	123.8	122.8	119.0
87.5°	153.8	165.4	146.0	125.7	113.2	105.4	101.5	86.1	69.6	60.9	48.4
90°	71.6	70.6	60.9	47.4	41.6	39.7	39.7	30.9	17.4	10.6	9.7
92.5°	30.0	30.9	25.1	20.3	17.4	13.5	10.6	6.8	3.9	1.9	1.0
95°	10.6	11.6	9.7	7.7	6.8	5.8	4.8	3.9	1.9	1.0	1.0
97.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	1.9	1.9	1.0	1.0
100°	0.0	0.0	0.0	1.0	1.9	1.9	1.9	1.9	1.0	1.0	1.0
102.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
105°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0



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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	1.0	1.0	1.0	1.0
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0
165°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
167.5°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
170°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
172.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
175°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
177.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4	2045.4
2.5°	2060.0	2055.1	2053.2	2029.0	2035.8	2021.3	2055.1	2045.4	2043.5	2057.1
5°	2064.8	2042.5	2056.1	2040.6	2044.5	2023.2	2050.3	2038.7	2039.6	2046.4
7.5°	2067.7	2055.1	2068.7	2041.6	2052.2	2044.5	2063.8	2052.2	2063.8	2069.6
10°	2096.7	2090.9	2081.2	2073.5	2081.2	2062.9	2087.0	2085.1	2091.9	2109.3
12.5°	2136.4	2129.6	2119.9	2106.4	2112.2	2105.4	2123.8	2125.7	2138.3	2147.0
15°	2195.3	2186.6	2181.8	2168.3	2170.2	2165.4	2176.0	2177.9	2203.1	2200.2
17.5°	2278.5	2268.8	2272.7	2260.1	2255.3	2243.7	2224.4	2217.6	2247.6	2256.3
20°	2369.4	2358.8	2363.6	2353.0	2263.0	2080.3	2203.1	2287.2	2223.4	2218.6
22.5°	2472.9	2461.3	2465.2	2448.7	2337.5	1995.2	1736.0	1714.7	1958.4	2057.1
25°	2587.0	2571.6	2569.6	2548.3	2182.8	1806.6	1777.6	1739.8	1561.9	1420.7
27.5°	2728.2	2705.0	2693.4	2372.3	2167.3	1877.2	1833.6	1699.2	1441.0	1449.7
30°	2881.0	2847.2	2629.6	2417.8	2280.5	1960.3	1902.3	1489.4	1491.3	1487.4
32.5°	3055.1	2979.7	2576.4	2557.0	2415.9	2049.3	1579.3	1561.9	1563.8	1569.6
35°	3283.4	2765.9	2755.3	2756.3	2581.2	1982.6	1673.1	1656.7	1658.6	1662.5
37.5°	3331.7	2981.6	2983.5	2961.3	2757.2	1811.4	1787.2	1786.3	1782.4	1778.5
40°	3370.4	3253.4	3225.3	3189.5	2556.1	1950.7	1942.9	1937.1	1940.0	1947.8
42.5°	3673.1	3585.1	3558.0	3515.5	2621.8	2161.5	2136.4	2129.6	2137.3	2133.5
45°	4075.4	4001.9	3948.7	3250.5	2896.5	2390.7	2370.4	2361.7	2364.6	2388.8
47.5°	4500.9	4457.4	4295.0	3511.6	3216.6	2661.5	2641.2	2627.6	2632.5	2626.7
50°	4964.2	4924.5	3975.8	3905.2	3570.6	2953.6	2923.6	2918.8	2920.7	2919.7
52.5°	5467.1	4638.3	4406.2	4332.7	3943.9	3259.2	3248.5	3222.4	3228.2	3222.4
55°	6057.0	4885.9	4880.1	4794.0	4363.6	3614.1	3601.5	3564.8	3333.6	3535.8
57.5°	6617.0	5358.8	5358.8	5275.6	4793.0	3967.1	3946.8	3919.7	2369.4	1911.0
60°	7230.1	5832.7	5819.1	5750.5	5206.9	4303.7	3498.1	3490.3	1431.3	1436.2
62.5°	7760.1	6255.3	6279.5	6215.6	5605.4	3222.4	1620.9	1588.0	141.2	217.6
65°	8353.9	6722.4	6751.4	6685.7	6036.7	3417.8	1759.2	1742.7	31.9	29.0
67.5°	9027.0	7188.6	7122.8	7050.3	6289.1	3519.3	1827.8	1813.3	8.7	5.8
68°	9032.8	7178.9	7093.8	7044.5	6265.0	3500.0	1822.0	1808.5	8.7	5.8
70°	8568.6	6817.2	6732.1	6744.7	5965.2	3347.2	1746.6	1721.5	8.7	5.8
72.5°	7517.4	6066.7	5971.0	5903.3	5290.1	2975.8	1565.8	1518.4	8.7	5.8
75°	6432.3	5141.2	4982.6	4833.6	4256.3	2435.2	1284.3	1231.1	8.7	5.8
77.5°	5069.6	3918.7	3693.4	3595.7	3198.2	1798.8	954.5	896.5	8.7	4.8
80°	2801.7	2248.5	2057.1	1997.1	1828.8	1057.1	547.4	512.6	7.7	4.8
82.5°	724.4	543.5	473.9	457.4	429.4	250.5	133.5	126.7	6.8	3.9
85°	103.5	76.4	84.1	99.6	95.7	64.8	46.4	39.7	5.8	2.9
87.5°	54.2	45.5	53.2	60.0	60.9	37.7	19.3	10.6	2.9	0.0
90°	8.7	8.7	9.7	10.6	10.6	4.8	3.9	0.0	0.0	0.0
92.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	1.0	1.9	1.0	1.0	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°
110°	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
112.5°	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	1.0	1.0	1.0	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)