

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: INVUE

Report Number: P140815

Luminaire Tested: **EMM-F04-LED-E1-RW**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P140815
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33689)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: EMM-F04-LED-E1-RW
Description: EPIC MODERN MEDIUM DECORATIVE LED LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - RECTANGULAR WIDE
Light Source: (28) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9765.3 lumens
Efficiency: N/A
Efficacy: 95.6 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): 102.2
Input Voltage (V): NR
Input Current (A_{in}): 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

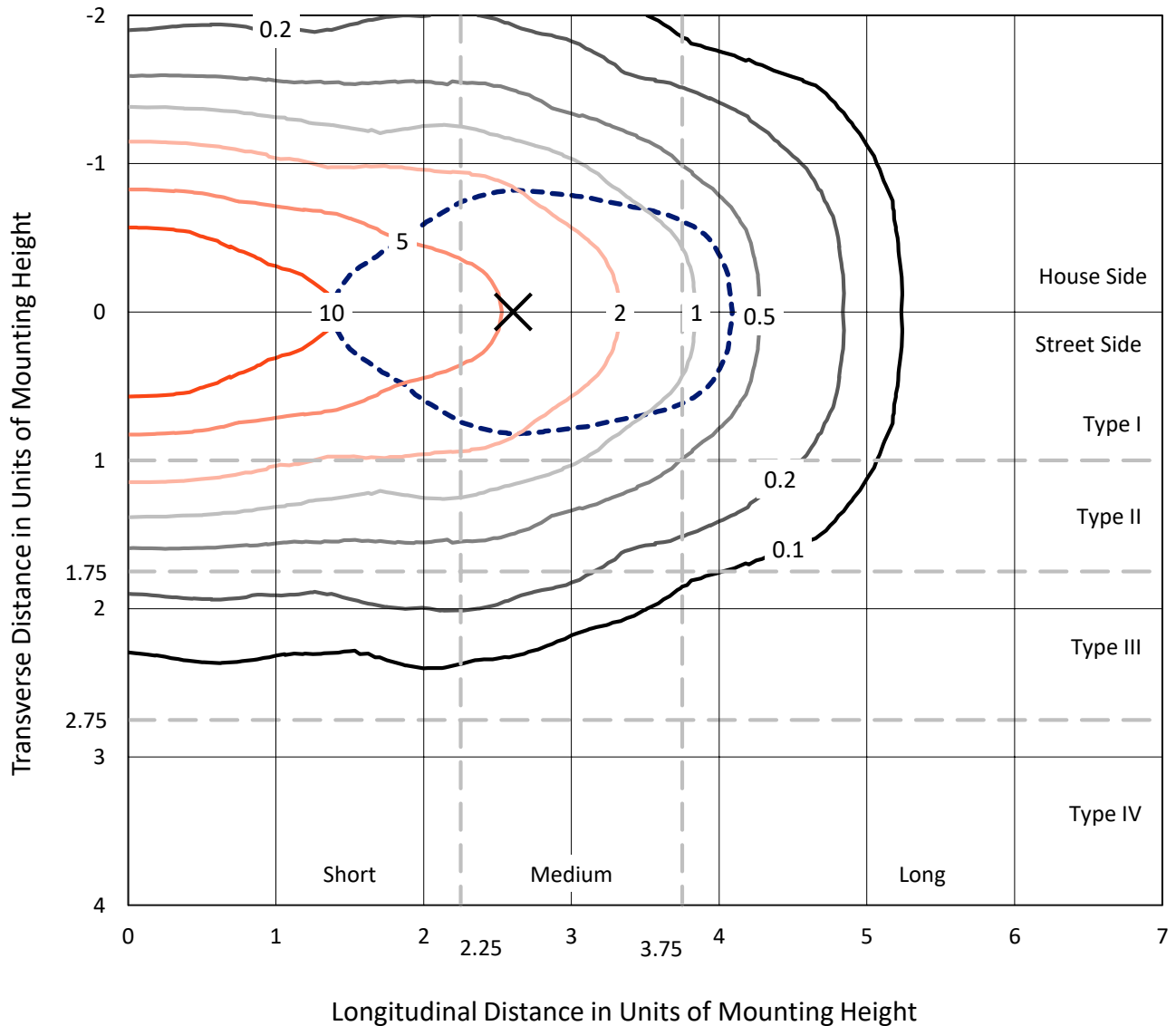


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

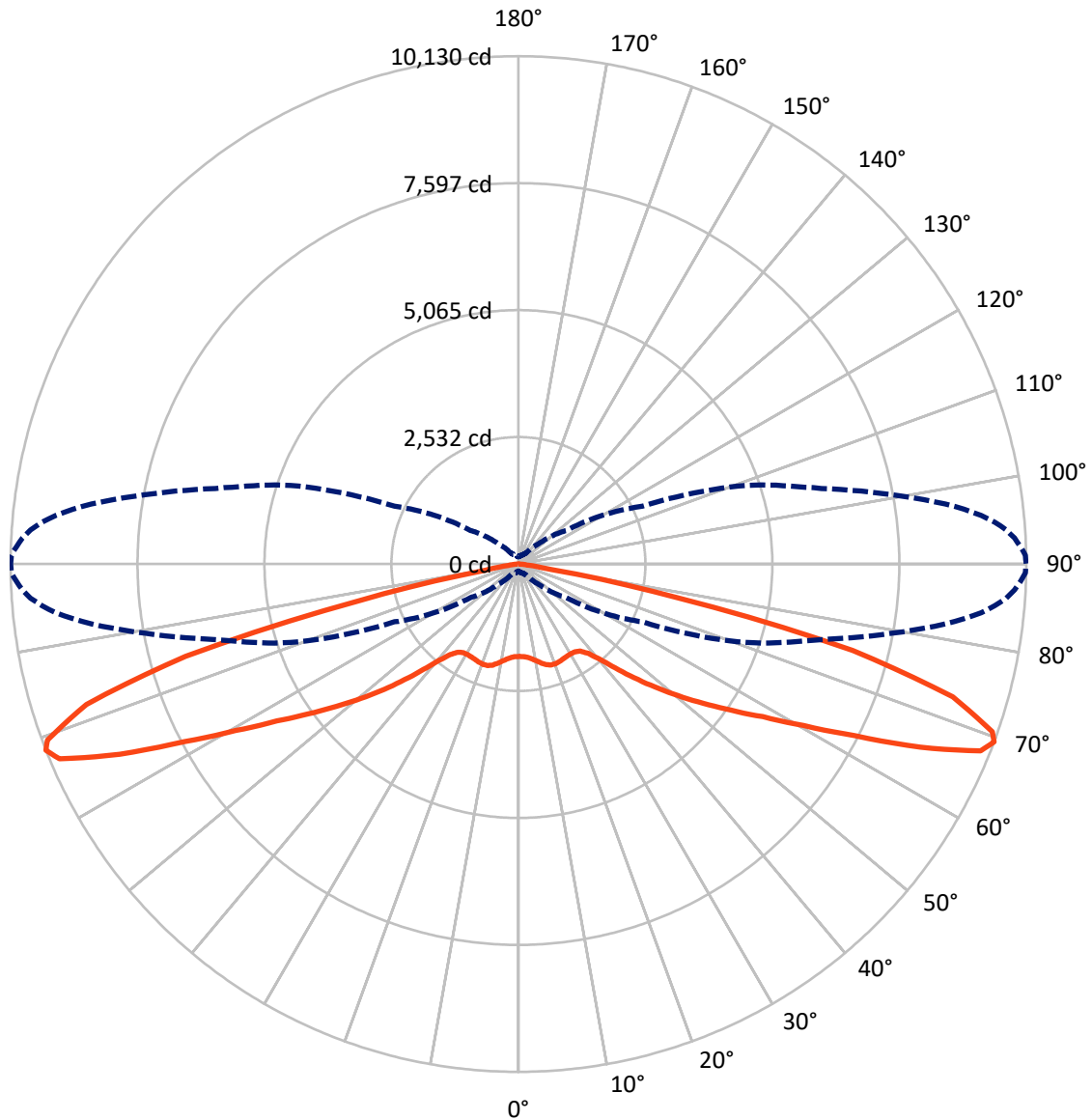


Based on 10 foot mounting height. Maximum calculated value = 18.8 fc
 Type I - Short - Full Cutoff

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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	4882.7	0.0	4882.7
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	4882.7	0.0	4882.7
	% Fixture	50.0	0.0	50.0
Total	Lumens	9765.3	0.0	9765.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.5	1.8
10°-20°	567.5	5.8
20°-30°	917.7	9.4
30°-40°	1146.3	11.7
40°-50°	1433.8	14.7
50°-60°	1766.8	18.1
60°-70°	2187.3	22.4
70°-80°	1429.6	14.6
80°-90°	135.9	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°	9765.3	100.0
0°-180°	9765.3	100.0



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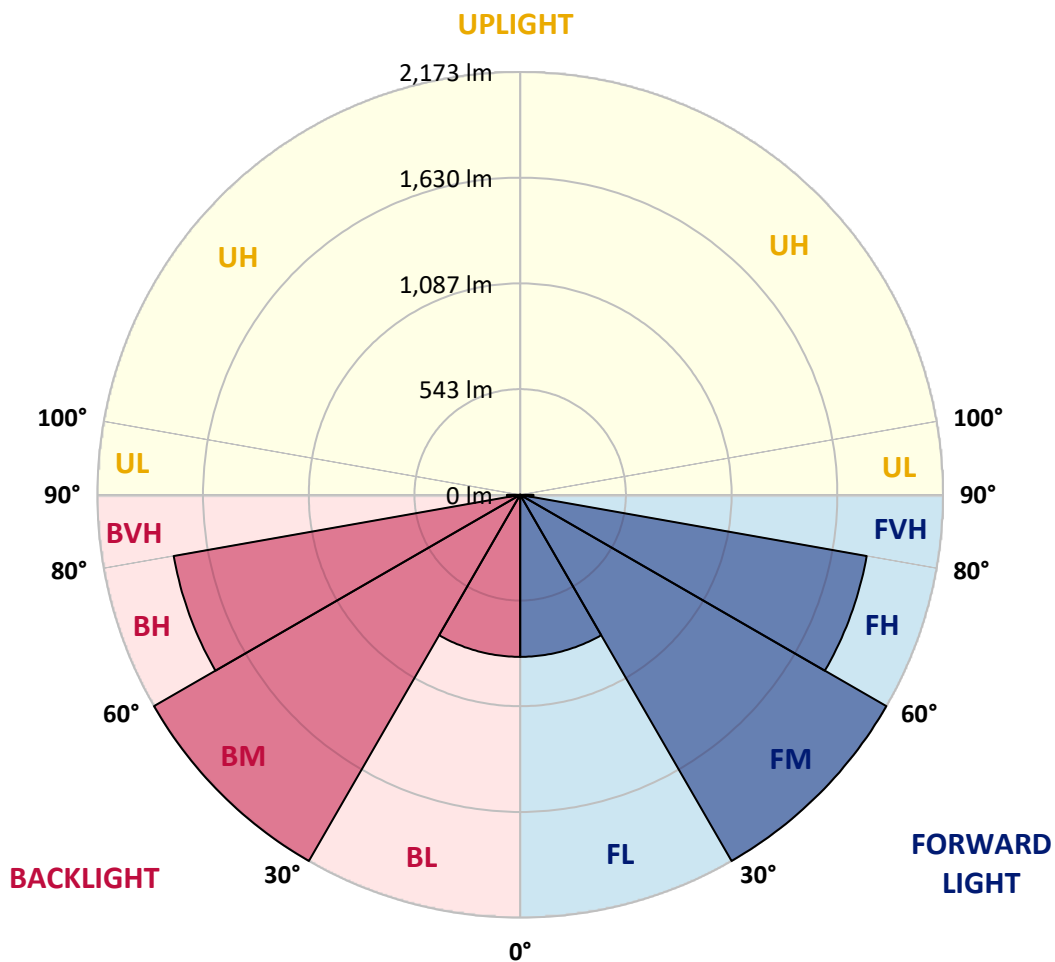
CATALOG NUMBER: EMM-F04-LED-E1-RW

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	832.9	8.5			
FM	(30°-60°)	2173.4	22.3			
FH	(60°-80°)	1808.4	18.5			G2/5000
FVH	(80°-90°)	67.9	0.7			G1/100
BL	(0°-30°)	832.9	8.5	B2/1000		
BM	(30°-60°)	2173.4	22.3	B2/2500		
BH	(60°-80°)	1808.4	18.5	B3/2500		G3/2500
BVH	(80°-90°)	67.9	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°	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7
2.5°	1855.8	1856.9	1853.6	1854.7	1855.8	1854.7	1853.0	1853.0	1852.5	1852.0	1851.4
5°	1867.9	1868.4	1866.8	1869.6	1870.1	1871.8	1871.8	1872.3	1872.0	1871.6	1871.3
7.5°	1885.0	1887.2	1885.5	1889.4	1893.2	1898.7	1901.4	1908.0	1907.9	1907.8	1907.7
10°	1900.9	1903.1	1903.1	1911.9	1921.3	1931.8	1942.8	1953.2	1953.9	1954.5	1955.2
12.5°	1913.0	1914.6	1917.4	1933.4	1954.3	1971.9	1991.2	2007.7	2008.4	2009.0	2009.7
15°	1908.0	1911.9	1924.6	1949.9	1986.8	2016.0	2039.6	2059.4	2060.7	2062.0	2063.4
17.5°	1891.0	1897.0	1915.2	1958.2	2014.8	2061.6	2089.7	2095.2	2096.1	2096.9	2097.8
20°	1854.2	1863.0	1891.6	1952.6	2036.3	2099.6	2127.6	2117.8	2116.9	2116.0	2115.1
22.5°	1792.5	1804.0	1839.8	1926.8	2038.0	2127.1	2154.6	2127.1	2124.0	2120.9	2117.9
25°	1709.9	1719.3	1760.0	1862.9	2012.6	2132.0	2171.7	2133.2	2128.2	2123.2	2118.3
27.5°	1609.8	1617.5	1668.1	1777.6	1949.9	2106.8	2182.7	2143.6	2137.2	2130.8	2124.5
30°	1497.0	1503.6	1559.1	1675.8	1861.8	2051.2	2181.6	2167.2	2159.7	2152.1	2144.5
32.5°	1384.6	1387.4	1437.0	1565.2	1763.9	1969.2	2163.4	2203.6	2196.2	2188.9	2181.5
35°	1261.4	1270.2	1323.0	1462.8	1653.2	1878.9	2139.2	2254.2	2250.1	2245.9	2241.7
37.5°	1162.4	1165.1	1221.8	1367.0	1563.5	1796.9	2108.4	2319.2	2322.2	2325.1	2328.1
40°	1063.2	1063.2	1119.4	1270.2	1473.8	1723.1	2082.6	2399.0	2414.0	2429.1	2444.2
42.5°	954.9	962.6	1017.6	1167.8	1386.8	1660.4	2069.4	2494.8	2523.2	2551.6	2580.0
45°	853.6	858.6	914.6	1061.6	1278.4	1588.9	2065.5	2601.5	2644.6	2687.8	2731.0
47.5°	754.0	761.1	814.6	949.4	1160.2	1493.6	2060.5	2723.2	2778.3	2833.4	2888.6
50°	661.6	666.0	725.3	848.1	1043.4	1370.4	2028.0	2859.1	2926.5	2993.8	3061.2
52.5°	563.6	572.4	621.4	747.9	925.6	1237.8	1942.8	3007.1	3088.6	3170.0	3251.4
55°	461.2	459.0	517.9	636.8	822.8	1110.6	1785.3	3135.4	3233.6	3331.9	3430.2
57.5°	337.9	345.0	399.0	519.6	703.3	1003.8	1599.8	3201.9	3324.5	3447.1	3569.8
60°	242.2	252.0	298.8	394.0	584.4	899.2	1410.6	3155.7	3318.2	3480.6	3643.1
62.5°	189.3	193.7	233.9	295.5	455.6	789.8	1283.4	3035.7	3259.7	3483.7	3707.7
65°	165.1	170.0	205.8	237.8	346.2	685.8	1206.9	2940.0	3235.6	3531.2	3826.9
67.5°	150.2	156.3	187.1	209.1	284.0	597.1	1188.8	2861.8	3208.6	3555.5	3902.3
69°	143.1	149.2	177.8	198.1	263.6	569.0	1167.8	2730.3	3082.3	3434.3	3786.3
70°	139.8	144.8	172.2	191.5	257.0	552.6	1120.5	2580.0	2920.3	3260.5	3600.7
72.5°	128.8	131.6	156.8	175.6	243.2	462.3	887.7	1931.2	2215.5	2499.8	2784.1
75°	114.0	118.4	141.4	160.7	195.4	296.1	582.2	1167.2	1377.8	1588.4	1799.0
77.5°	98.0	101.8	121.6	153.6	150.2	179.4	334.6	652.2	766.0	879.8	993.6
80°	84.8	88.6	106.8	142.6	122.2	132.6	225.6	425.4	468.7	511.9	555.2
82.5°	66.6	69.3	89.8	116.2	94.7	98.6	169.0	371.5	397.6	423.7	449.8
85°	42.3	44.0	65.4	79.2	66.0	58.3	106.2	272.4	293.0	313.6	334.2
87.5°	14.8	20.9	29.2	27.5	27.5	20.9	37.4	100.7	108.7	116.8	124.8
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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CATALOG NUMBER: EMM-F04-LED-E1-RW

CANDELA DISTRIBUTION (continued):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7
2.5°	1850.8	1850.3	1850.8	1850.8	1850.3	1849.8	1849.8	1849.2	1848.1	1848.1	1847.6
5°	1871.0	1870.6	1871.8	1871.2	1871.8	1871.2	1871.2	1870.6	1871.2	1869.0	1868.4
7.5°	1907.6	1907.5	1907.5	1909.2	1908.0	1907.5	1908.6	1908.6	1908.6	1907.5	1907.5
10°	1955.8	1956.5	1957.6	1958.7	1958.7	1958.7	1960.9	1959.2	1962.6	1959.2	1960.9
12.5°	2010.3	2011.0	2013.8	2014.8	2016.0	2016.0	2016.0	2019.2	2021.4	2020.9	2021.4
15°	2064.7	2066.0	2066.6	2068.2	2068.2	2068.8	2071.0	2074.8	2073.7	2075.9	2075.9
17.5°	2098.7	2099.6	2099.0	2099.0	2100.1	2101.8	2104.0	2106.1	2105.6	2107.2	2108.4
20°	2114.2	2113.4	2111.7	2110.6	2110.0	2111.2	2111.1	2111.6	2112.8	2112.8	2112.8
22.5°	2114.8	2111.7	2107.9	2105.6	2102.9	2101.2	2102.3	2101.2	2101.2	2101.2	2100.1
25°	2113.4	2108.4	2102.4	2098.0	2093.6	2090.8	2088.0	2086.9	2084.7	2084.7	2084.7
27.5°	2118.1	2111.7	2105.6	2097.4	2091.4	2088.0	2084.2	2080.4	2078.1	2075.9	2075.9
30°	2136.9	2129.3	2121.6	2111.7	2103.4	2100.7	2093.6	2089.7	2084.2	2081.4	2080.3
32.5°	2174.1	2166.8	2156.3	2145.2	2138.6	2130.4	2124.4	2116.1	2110.0	2106.2	2101.2
35°	2237.5	2233.3	2224.5	2217.4	2207.4	2198.1	2186.0	2181.6	2169.0	2166.8	2160.6
37.5°	2331.0	2334.0	2332.4	2326.9	2320.3	2312.0	2307.1	2297.8	2292.8	2287.9	2282.3
40°	2459.3	2474.4	2479.3	2485.4	2487.0	2494.2	2486.0	2484.8	2478.2	2483.8	2480.4
42.5°	2608.4	2636.8	2652.1	2670.3	2690.2	2708.3	2722.6	2746.8	2744.0	2762.8	2776.0
45°	2774.1	2817.2	2856.9	2887.1	2925.1	2967.0	3003.8	3037.9	3076.4	3098.4	3130.9
47.5°	2943.7	2998.8	3055.6	3111.6	3165.6	3219.6	3285.6	3345.6	3403.9	3443.6	3493.6
50°	3128.5	3195.9	3264.1	3333.0	3409.4	3494.2	3567.9	3646.0	3726.4	3807.8	3865.1
52.5°	3332.9	3414.4	3488.7	3561.3	3656.0	3745.7	3841.4	3939.4	4061.0	4149.6	4228.4
55°	3528.5	3626.8	3708.2	3795.2	3894.3	3993.8	4111.1	4233.8	4362.6	4490.3	4605.9
57.5°	3692.4	3815.0	3911.9	3998.2	4104.5	4219.6	4345.6	4497.4	4644.4	4802.9	4952.0
60°	3805.6	3968.0	4084.7	4188.7	4312.0	4439.7	4604.2	4783.6	4976.8	5173.8	5365.4
62.5°	3931.7	4155.7	4315.3	4463.9	4609.7	4751.7	4937.2	5160.1	5422.0	5660.4	5914.0
65°	4122.5	4418.2	4653.8	4843.0	5050.0	5257.0	5473.2	5733.6	6031.3	6379.1	6674.6
67.5°	4249.1	4596.0	4895.4	5166.7	5408.2	5659.8	5932.8	6244.3	6603.6	6958.6	7326.2
69°	4138.3	4490.3	4806.8	5105.6	5370.3	5641.1	5918.5	6232.2	6599.2	6991.6	7379.6
70°	3941.0	4281.2	4608.1	4922.8	5181.5	5464.4	5737.4	6036.2	6408.3	6800.6	7222.8
72.5°	3068.4	3352.8	3688.4	3992.2	4301.0	4559.1	4805.6	5105.6	5480.9	5854.6	6265.8
75°	2009.5	2220.1	2527.2	2777.1	3044.0	3286.2	3465.0	3762.7	3990.6	4342.2	4724.2
77.5°	1107.4	1221.2	1380.8	1584.4	1699.4	1836.0	2014.8	2123.2	2285.0	2531.0	2645.6
80°	598.4	641.7	708.8	751.2	785.4	751.8	733.6	766.1	752.3	748.4	711.6
82.5°	475.9	502.0	536.6	561.4	545.4	473.4	396.8	341.2	305.4	257.0	220.2
85°	354.8	375.4	388.5	405.0	402.3	363.8	291.2	225.1	176.6	140.9	122.8
87.5°	132.9	140.9	144.8	176.1	161.8	153.6	119.4	87.0	66.6	48.4	39.0
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):

	80°	81°	82°	83°	84°	85°	86°	87°	88°	89°	90°
0°	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7	1843.7
2.5°	1848.6	1848.1	1848.1	1848.1	1848.6	1847.6	1846.4	1847.6	1847.0	1847.0	1847.0
5°	1870.6	1870.1	1870.1	1870.6	1870.1	1870.6	1870.1	1867.9	1869.0	1869.6	1870.1
7.5°	1908.6	1908.0	1908.0	1910.8	1910.2	1909.7	1909.2	1910.2	1908.6	1908.6	1909.7
10°	1960.9	1963.1	1962.6	1964.2	1963.6	1962.6	1961.4	1962.5	1964.2	1964.8	1962.5
12.5°	2024.8	2025.3	2024.2	2027.0	2025.3	2029.2	2024.8	2027.0	2029.2	2025.8	2027.5
15°	2076.4	2076.4	2078.6	2079.2	2078.6	2079.8	2083.0	2081.4	2079.8	2082.5	2083.6
17.5°	2107.8	2109.4	2110.0	2110.6	2111.6	2112.8	2113.3	2112.8	2113.3	2114.4	2116.6
20°	2115.0	2114.4	2115.5	2116.1	2117.8	2117.8	2118.9	2118.2	2119.9	2120.4	2121.0
22.5°	2102.3	2102.8	2103.4	2105.0	2104.5	2105.6	2106.1	2107.8	2107.2	2108.4	2108.9
25°	2085.2	2086.4	2086.9	2086.4	2086.4	2086.9	2087.4	2086.9	2089.1	2090.2	2090.2
27.5°	2074.2	2074.2	2075.9	2075.4	2074.2	2075.4	2074.8	2074.8	2074.8	2075.4	2077.0
30°	2078.6	2077.0	2075.9	2075.9	2075.4	2074.2	2073.2	2071.5	2071.5	2072.0	2071.5
32.5°	2102.4	2099.0	2097.4	2095.7	2094.6	2091.9	2088.6	2087.4	2084.7	2084.7	2083.6
35°	2162.8	2159.0	2159.0	2153.0	2149.6	2148.0	2145.3	2137.0	2137.6	2134.3	2133.2
37.5°	2283.4	2276.8	2274.0	2279.6	2269.1	2273.5	2264.2	2260.3	2262.4	2256.4	2259.7
40°	2486.0	2496.4	2492.0	2498.0	2500.8	2501.8	2501.9	2492.6	2501.9	2487.0	2492.0
42.5°	2778.2	2805.7	2815.6	2818.9	2836.0	2831.6	2826.6	2826.0	2825.5	2832.6	2828.8
45°	3145.8	3149.6	3196.4	3205.2	3214.6	3225.0	3222.3	3234.4	3243.2	3231.1	3232.8
47.5°	3521.7	3560.8	3594.9	3613.6	3634.0	3623.5	3631.8	3636.7	3668.1	3664.8	3662.0
50°	3935.6	4001.0	4019.2	4039.6	4055.6	4087.4	4084.7	4104.0	4100.6	4126.6	4129.8
52.5°	4328.0	4400.0	4473.2	4505.2	4529.4	4566.2	4580.6	4601.5	4593.8	4591.6	4610.8
55°	4718.2	4838.7	4922.4	5004.3	5050.0	5099.0	5119.9	5149.6	5162.8	5168.9	5144.7
57.5°	5105.0	5249.8	5391.2	5492.5	5563.0	5636.7	5675.8	5708.2	5746.2	5758.9	5746.8
60°	5557.5	5769.4	5954.8	6090.2	6220.0	6300.4	6384.6	6446.2	6457.8	6510.1	6543.7
62.5°	6160.0	6418.2	6653.2	6850.2	7051.6	7201.8	7353.8	7414.3	7474.3	7515.0	7539.8
65°	6981.8	7321.8	7646.6	7926.7	8173.8	8423.6	8600.8	8693.9	8813.3	8837.0	8811.1
67.5°	7702.2	8103.4	8506.8	8863.4	9130.3	9389.5	9599.8	9753.8	9865.6	9920.6	9943.7
69°	7781.4	8189.2	8601.4	8957.0	9280.0	9538.6	9753.8	9906.8	10018.0	10113.2	10129.7
70°	7619.0	8076.9	8477.6	8836.4	9169.4	9433.0	9625.6	9800.7	9927.2	10000.4	10026.3
72.5°	6688.4	7100.0	7504.6	7917.9	8203.5	8520.0	8678.4	8818.8	8987.2	9083.0	9062.1
75°	5068.8	5424.8	5777.6	6086.9	6307.0	6423.7	6609.2	6745.0	6720.3	6881.6	6886.0
77.5°	2859.0	2905.3	3144.7	3112.8	3218.5	3221.2	3248.7	3296.6	3204.7	3393.4	3258.1
80°	693.4	684.1	733.6	675.2	670.3	665.3	648.8	681.4	685.8	652.2	658.2
82.5°	203.6	194.8	191.0	186.0	194.2	191.5	193.2	194.2	199.8	192.6	200.3
85°	111.8	105.2	104.6	101.9	101.3	95.2	94.7	94.7	90.8	92.0	91.4
87.5°	42.9	40.2	38.0	36.3	35.8	34.1	32.4	29.7	26.4	23.7	22.0
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)