

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: P146895

Luminaire Tested: **LDRL-T4-F06-E**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146895  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33696)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-T4-F06-E  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (42) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14555.4 lumens  
Efficiency: N/A  
Efficacy: 93.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G3

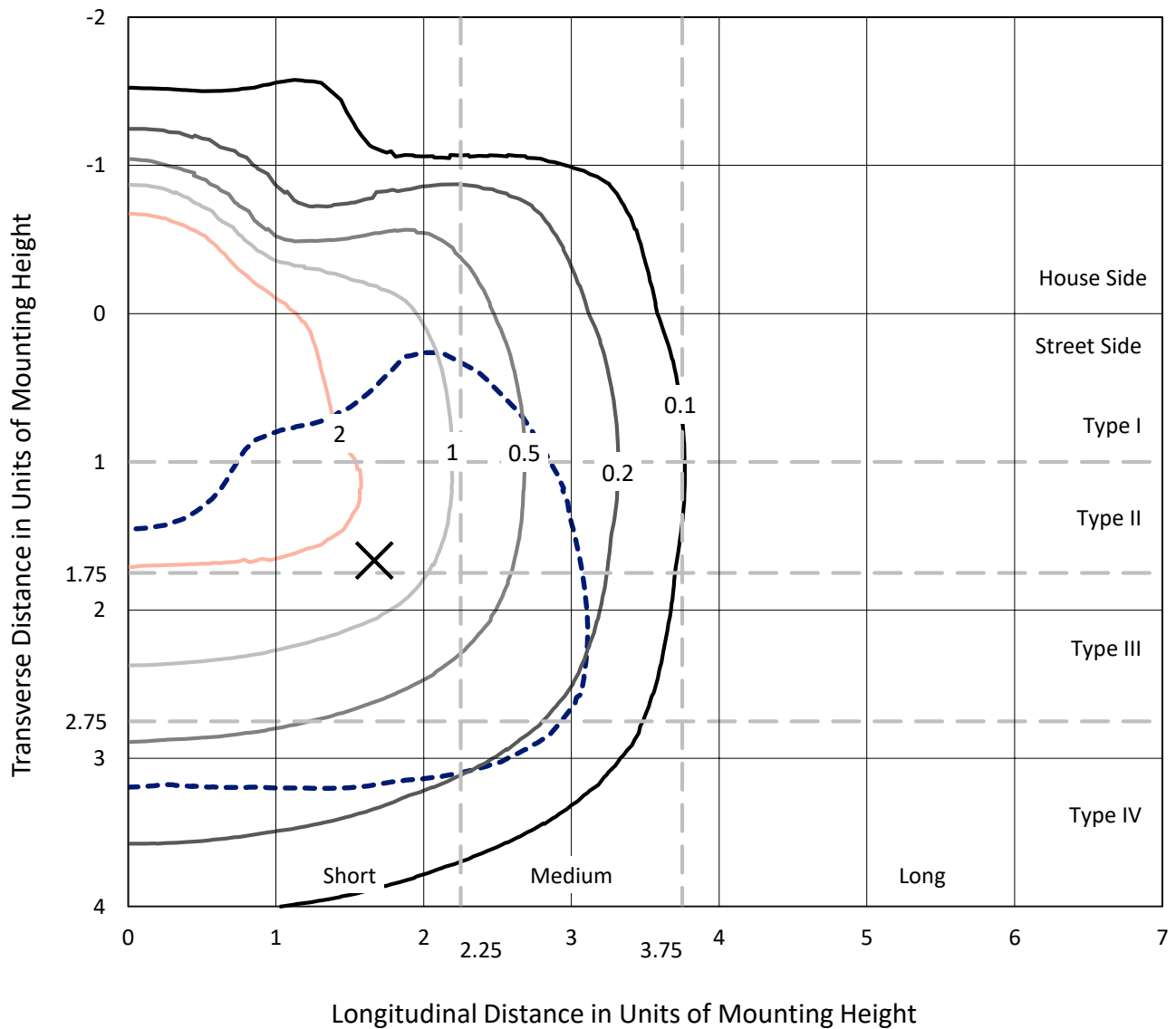
Input Watts (W): 156.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

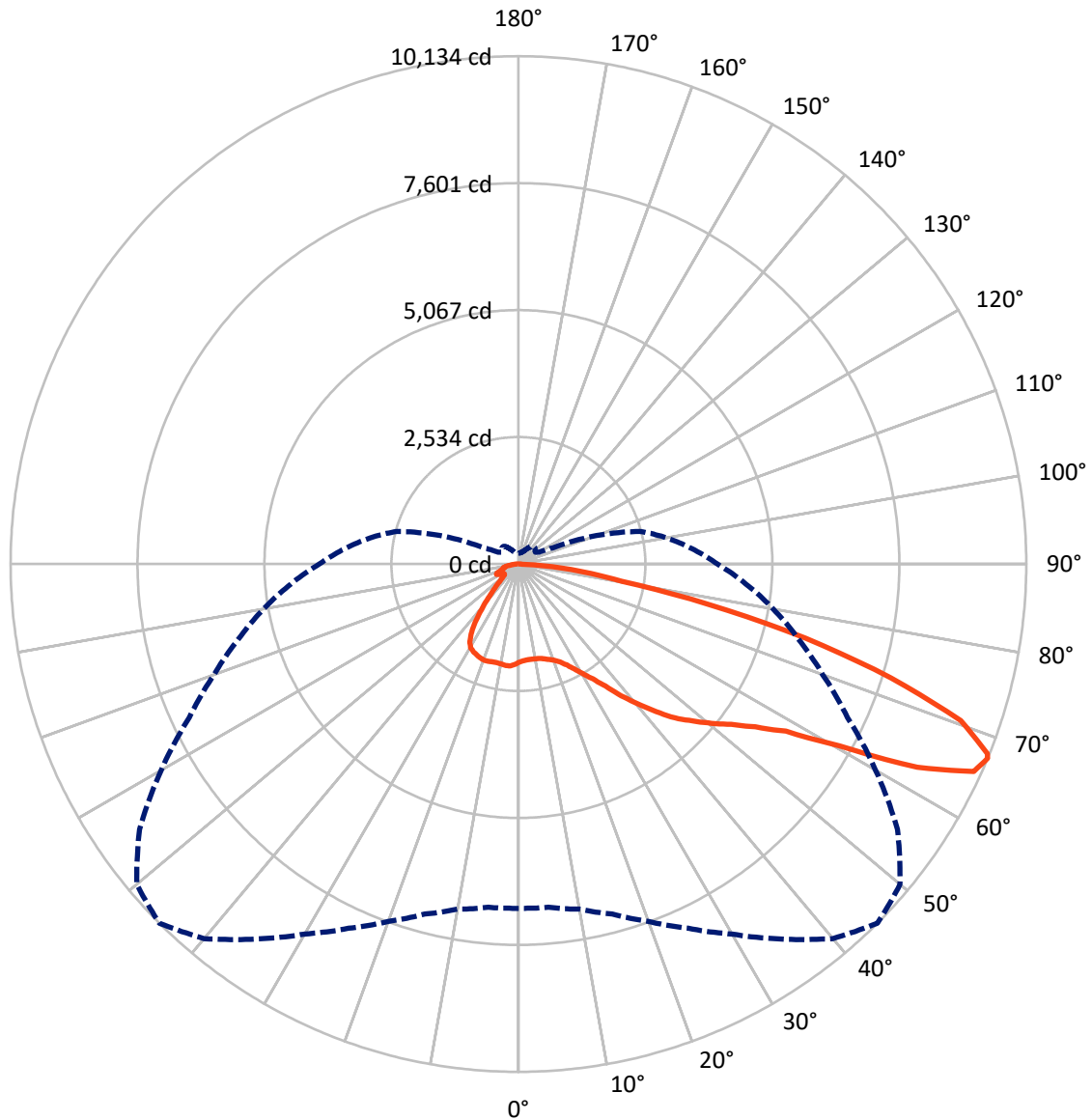
× Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 67-Deg Vertical

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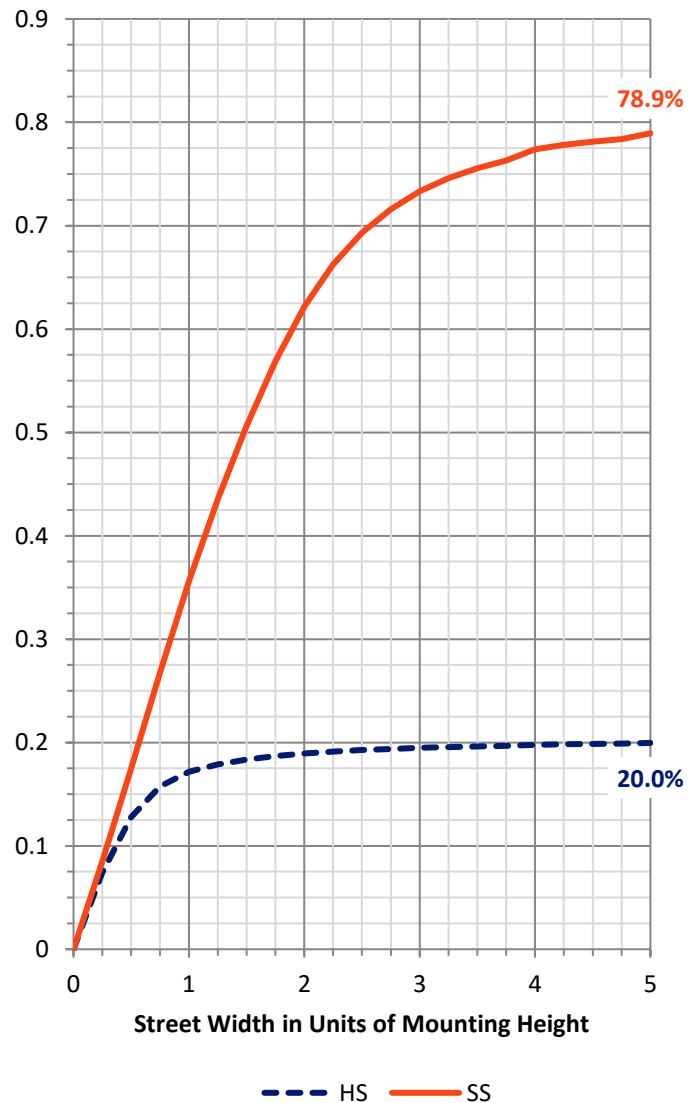
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2949.3	0.0	2949.3
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	11606.1	0.0	11606.1
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	14555.4	0.0	14555.4
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	188.9	1.3
10°-20°	567.1	3.9
20°-30°	963.8	6.6
30°-40°	1448.5	10.0
40°-50°	1883.5	12.9
50°-60°	2586.0	17.8
60°-70°	4079.4	28.0
70°-80°	2464.8	16.9
80°-90°	373.4	2.6
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°	14555.4	100.0
0°-180°	14555.4	100.0



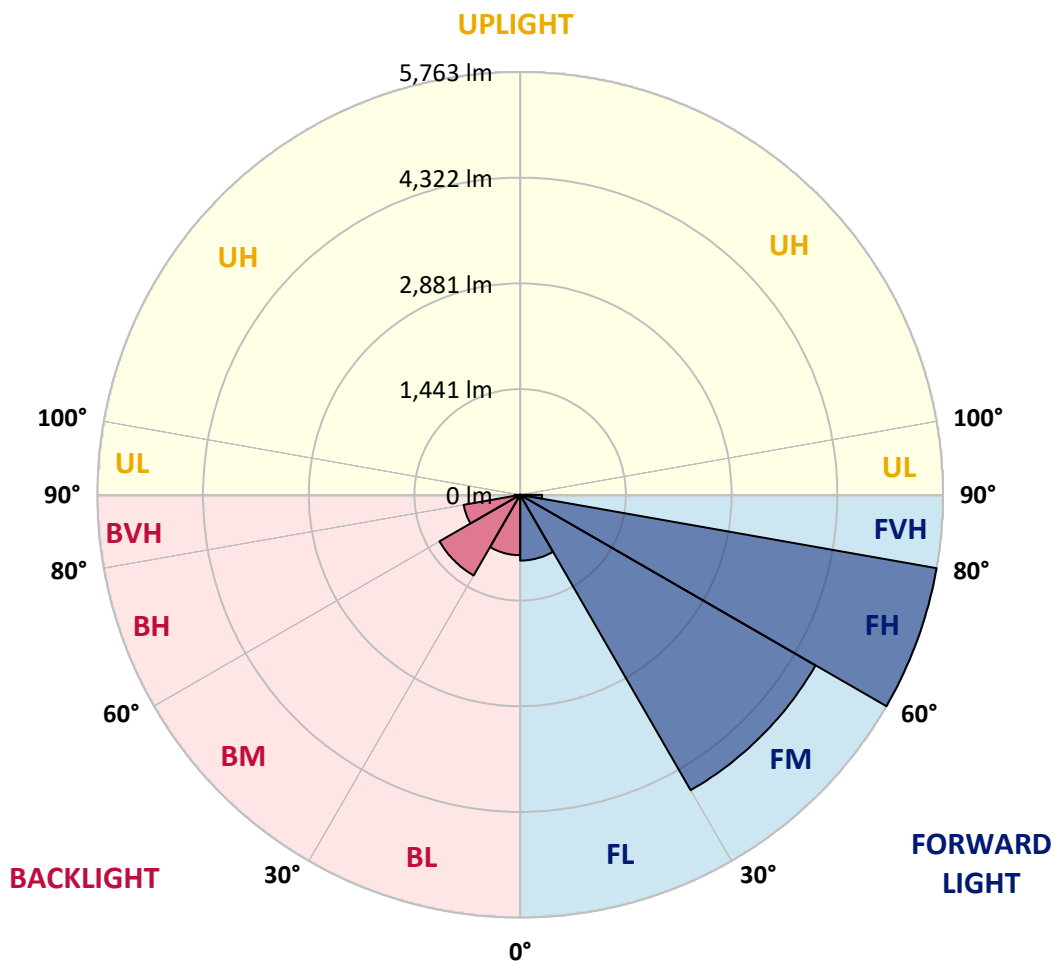
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	896.3	6.2			
FM	(30°-60°)	4648.9	31.9			
FH	(60°-80°)	5762.7	39.6			G3/7500
FVH	(80°-90°)	298.2	2.0			G3/500
BL	(0°-30°)	823.4	5.7	B2/1000		
BM	(30°-60°)	1269.1	8.7	B2/2500		
BH	(60°-80°)	781.5	5.4	B2/1000		G2/1000
BVH	(80°-90°)	75.2	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5
2.5°	1915.9	1919.8	1916.9	1916.9	1917.9	1918.9	1920.8	1924.8	1925.8	1931.7	1932.7
5°	1877.2	1878.2	1878.2	1879.2	1885.2	1890.1	1895.1	1902.0	1908.0	1918.9	1925.8
7.5°	1863.4	1867.3	1866.3	1868.3	1874.3	1879.2	1885.2	1895.1	1909.9	1918.9	1928.8
10°	1886.2	1889.1	1886.2	1887.1	1888.1	1893.1	1895.1	1902.0	1913.9	1921.8	1930.7
12.5°	1938.7	1938.7	1935.7	1933.7	1930.7	1931.7	1927.8	1926.8	1932.7	1933.7	1934.7
15°	2008.0	2015.9	2006.0	1998.1	1994.1	1990.2	1977.3	1972.3	1971.4	1962.4	1953.5
17.5°	2078.3	2080.3	2074.4	2065.5	2059.5	2050.6	2039.7	2029.8	2017.9	2004.0	1986.2
20°	2156.6	2157.6	2149.7	2136.8	2129.9	2119.0	2105.1	2088.2	2073.4	2051.6	2031.8
22.5°	2265.6	2264.6	2248.7	2237.8	2227.9	2215.0	2195.2	2172.5	2148.7	2122.9	2095.2
25°	2390.4	2390.4	2379.5	2361.7	2356.7	2337.9	2316.1	2289.3	2264.6	2227.9	2194.2
27.5°	2533.0	2534.0	2514.2	2504.3	2493.4	2473.6	2458.7	2437.9	2404.3	2367.6	2332.9
30°	2702.4	2697.5	2681.6	2660.8	2656.9	2641.0	2620.2	2605.4	2563.8	2538.0	2499.4
32.5°	2862.9	2870.8	2866.9	2843.1	2847.1	2831.2	2813.4	2802.5	2758.9	2734.1	2698.5
35°	3102.7	3109.6	3115.5	3106.6	3111.6	3102.7	3087.8	3059.1	3023.4	2990.7	2941.2
37.5°	3288.9	3295.8	3299.8	3321.6	3353.3	3384.0	3397.9	3383.0	3385.0	3335.5	3269.1
40°	3441.4	3458.3	3482.1	3523.7	3587.1	3645.5	3677.2	3702.0	3714.9	3668.3	3582.1
42.5°	3594.0	3611.8	3644.5	3710.9	3798.1	3882.3	3948.7	4024.9	4038.8	4026.9	3953.6
45°	3753.5	3774.3	3814.9	3890.2	3992.2	4102.2	4209.2	4317.2	4371.6	4380.6	4291.4
47.5°	3945.7	3975.4	4013.0	4098.2	4197.3	4321.1	4454.9	4593.6	4678.7	4678.7	4575.7
50°	4185.4	4219.1	4250.8	4336.0	4435.1	4562.8	4717.4	4871.9	4987.8	4994.8	4869.9
52.5°	4521.2	4526.2	4545.0	4623.3	4709.5	4852.1	4998.7	5178.0	5311.8	5317.7	5174.1
55°	4929.4	4929.4	4951.2	5016.5	5096.8	5214.7	5366.2	5565.4	5706.0	5736.7	5552.5
57.5°	5466.3	5486.1	5497.0	5573.3	5627.8	5752.6	5879.4	6096.3	6275.6	6295.5	6108.2
60°	6340.0	6302.4	6362.8	6430.2	6558.0	6649.1	6865.1	7083.0	7311.8	7366.3	7165.2
62.5°	7200.9	7241.5	7315.8	7437.6	7656.6	7860.6	8169.7	8500.6	8856.2	8929.5	8776.0
65°	7254.4	7279.1	7382.2	7592.2	7891.4	8254.9	8680.9	9179.2	9709.2	9983.6	9726.0
67°	6870.0	6877.0	6993.8	7232.6	7591.2	8022.1	8526.4	9134.6	9756.7	10134.1	9942.0
67.5°	6748.2	6761.0	6876.0	7119.7	7482.2	7923.1	8437.2	9062.3	9699.3	10093.5	9920.2
70°	6032.9	6032.9	6156.8	6402.4	6742.2	7172.2	7710.1	8341.1	9033.6	9365.4	9217.8
72.5°	5135.4	5102.7	5242.4	5428.7	5706.0	6081.5	6514.4	7012.7	7533.7	7775.5	7717.0
75°	3732.7	3794.1	3866.4	4004.1	4244.8	4541.0	4794.6	5239.4	5648.6	5916.0	5845.7
77.5°	2036.7	2060.5	2260.6	2342.8	2553.8	2773.8	3052.1	3364.2	3686.1	3854.5	3786.2
80°	1210.5	1257.1	1376.0	1474.1	1588.0	1755.4	1957.5	2025.8	2089.2	2085.3	1961.4
82.5°	764.8	821.2	950.0	1034.2	1093.7	1190.7	1300.7	1386.9	1405.7	1312.6	1168.9
85°	123.8	205.1	535.9	630.0	667.7	720.2	801.4	838.1	782.6	683.5	708.3
87.5°	48.5	58.4	163.5	207.0	218.9	114.9	199.1	233.8	118.9	60.4	136.7
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5
2.5°	1938.7	1943.6	1948.6	1954.5	1956.5	1961.4	1970.4	1969.4	1976.3	1979.3	1984.2
5°	1934.7	1945.6	1953.5	1964.4	1968.4	1979.3	1991.2	1995.1	2004.0	2011.0	2016.9
7.5°	1942.6	1954.5	1964.4	1977.3	1986.2	1995.1	2004.0	2014.9	2022.9	2027.8	2031.8
10°	1945.6	1958.5	1970.4	1981.3	1991.2	1998.1	2008.0	2016.9	2024.8	2027.8	2028.8
12.5°	1946.6	1955.5	1967.4	1979.3	1988.2	1997.1	2004.0	2014.0	2019.9	2020.9	2018.9
15°	1954.5	1955.5	1963.4	1977.3	1986.2	1995.1	2000.1	2005.0	2009.0	2006.0	2003.1
17.5°	1978.3	1971.4	1971.4	1978.3	1983.2	1987.2	1988.2	1987.2	1983.2	1977.3	1972.3
20°	2016.9	2003.1	1992.2	1988.2	1980.3	1970.4	1957.5	1945.6	1930.7	1923.8	1922.8
22.5°	2077.4	2056.5	2036.7	2016.9	1991.2	1962.4	1932.7	1907.0	1886.2	1875.3	1876.3
25°	2180.4	2149.7	2126.9	2092.2	2050.6	2010.0	1971.4	1936.7	1911.9	1892.1	1896.1
27.5°	2319.1	2284.4	2264.6	2225.0	2177.4	2125.9	2080.3	2032.8	1997.1	1972.3	1977.3
30°	2481.5	2471.6	2438.9	2399.3	2354.7	2296.3	2227.9	2156.6	2092.2	2051.6	2043.7
32.5°	2677.7	2666.8	2631.1	2597.4	2540.0	2475.6	2386.4	2273.5	2172.5	2095.2	2061.5
35°	2919.4	2892.6	2849.1	2816.4	2752.0	2668.8	2553.8	2401.3	2247.7	2131.8	2047.6
37.5°	3220.5	3154.2	3081.8	2996.7	2901.6	2800.5	2667.8	2489.5	2299.3	2134.8	1985.2
40°	3507.8	3400.8	3281.0	3146.2	3030.3	2908.5	2770.8	2566.7	2333.9	2114.0	1891.1
42.5°	3827.8	3661.4	3498.9	3313.7	3161.1	3016.5	2859.0	2621.2	2340.9	2057.5	1769.3
45°	4135.9	3921.9	3704.0	3475.1	3281.0	3120.5	2941.2	2667.8	2338.9	1998.1	1648.4
47.5°	4410.3	4154.7	3885.3	3627.7	3401.8	3225.5	3029.3	2731.2	2365.6	1981.3	1568.2
50°	4666.9	4371.6	4055.6	3769.3	3523.7	3343.4	3141.3	2831.2	2447.8	2019.9	1556.3
52.5°	4931.4	4610.4	4248.8	3940.7	3684.2	3475.1	3271.1	2959.0	2562.8	2099.1	1583.0
55°	5276.1	4907.6	4522.2	4180.5	3886.2	3661.4	3425.6	3113.5	2686.6	2191.3	1633.5
57.5°	5789.2	5358.3	4920.5	4552.9	4213.1	3932.8	3674.2	3316.6	2891.6	2330.0	1744.5
60°	6710.5	6233.0	5725.8	5245.4	4854.1	4526.2	4197.3	3753.5	3270.1	2645.0	1999.1
62.5°	8215.3	7554.5	6853.2	6221.2	5683.2	5239.4	4775.8	4242.9	3679.2	3027.4	2384.4
65°	9119.7	8208.4	7315.8	6582.7	5946.8	5378.1	4817.4	4244.8	3699.0	3129.4	2557.8
67°	9231.7	8232.1	7244.5	6463.9	5782.3	5163.2	4554.9	3969.5	3481.1	3003.6	2510.3
67.5°	9198.0	8184.6	7177.1	6388.6	5700.1	5100.8	4502.4	3903.1	3427.6	2950.1	2474.6
70°	8534.3	7542.7	6546.1	5779.3	5119.6	4506.4	3940.7	3340.4	2972.9	2631.1	2220.0
72.5°	7083.0	6309.3	5474.2	4835.3	4265.7	3734.7	3237.4	2735.1	2439.9	2198.2	1908.9
75°	5252.3	4543.0	3836.7	3452.3	3010.5	2585.5	2201.2	1829.7	1715.8	1658.3	1487.9
77.5°	3243.3	2606.3	2074.4	1726.7	1373.0	1075.8	855.9	696.4	726.1	845.0	899.5
80°	1614.7	1192.7	923.3	734.1	593.4	479.5	351.7	257.6	308.1	365.5	414.1
82.5°	971.8	767.7	607.3	514.1	418.0	322.9	228.8	174.4	193.2	259.5	285.3
85°	603.3	483.4	386.3	322.9	267.5	198.1	129.8	128.8	136.7	172.4	197.1
87.5°	177.3	119.9	95.1	99.1	110.0	91.1	68.4	58.4	72.3	99.1	111.0
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5	1959.5
2.5°	1985.2	1992.2	1995.1	1996.1	1997.1	2003.1	2003.1	2009.0	2011.0	2011.0	2013.0
5°	2022.9	2029.8	2032.8	2033.8	2035.7	2038.7	2037.7	2041.7	2043.7	2042.7	2042.7
7.5°	2036.7	2038.7	2038.7	2041.7	2044.7	2041.7	2039.7	2041.7	2040.7	2041.7	2041.7
10°	2031.8	2029.8	2029.8	2027.8	2030.8	2024.8	2024.8	2026.8	2025.8	2027.8	2030.8
12.5°	2019.9	2018.9	2015.9	2014.9	2018.9	2014.9	2015.9	2018.9	2020.9	2024.8	2029.8
15°	2003.1	2000.1	2000.1	2004.0	2014.0	2016.9	2020.9	2025.8	2026.8	2028.8	2030.8
17.5°	1974.3	1979.3	1991.2	2005.0	2023.9	2030.8	2032.8	2029.8	2019.9	2012.0	2004.0
20°	1934.7	1956.5	1987.2	2016.9	2039.7	2038.7	2025.8	2007.0	1983.2	1966.4	1955.5
22.5°	1901.0	1943.6	1991.2	2026.8	2041.7	2022.9	1993.1	1964.4	1936.7	1911.9	1890.1
25°	1924.8	1965.4	2006.0	2027.8	2026.8	1994.1	1954.5	1922.8	1885.2	1850.5	1813.8
27.5°	2002.1	2026.8	2038.7	2031.8	2011.0	1967.4	1923.8	1879.2	1830.7	1789.1	1746.5
30°	2054.6	2054.6	2042.7	2014.9	1978.3	1929.7	1876.3	1818.8	1761.3	1712.8	1664.3
32.5°	2037.7	1999.1	1964.4	1926.8	1885.2	1832.7	1771.2	1708.8	1643.5	1587.0	1545.4
35°	1964.4	1881.2	1808.9	1755.4	1711.8	1649.4	1578.1	1506.7	1453.3	1414.6	1390.8
37.5°	1833.7	1700.9	1595.9	1530.5	1463.2	1398.8	1316.5	1283.9	1236.3	1212.5	1203.6
40°	1675.2	1481.0	1349.2	1265.0	1193.7	1113.5	1058.0	1037.2	1019.4	1014.4	1010.4
42.5°	1492.9	1250.2	1093.7	1006.5	920.3	861.8	837.1	824.2	821.2	821.2	826.2
45°	1303.7	1015.4	835.1	764.8	693.4	662.7	656.8	650.8	651.8	648.9	650.8
47.5°	1157.1	815.3	630.0	565.6	529.0	519.1	512.2	510.2	510.2	505.2	499.3
50°	1080.8	681.6	494.3	443.8	423.0	416.1	416.1	412.1	404.2	399.2	386.3
52.5°	1061.0	612.2	428.0	384.4	366.5	360.6	354.6	348.7	336.8	325.9	311.1
55°	1076.8	590.4	407.1	366.5	346.7	339.8	334.8	324.9	308.1	292.2	275.4
57.5°	1143.2	604.3	415.1	371.5	353.7	348.7	343.7	328.9	308.1	285.3	266.5
60°	1324.5	669.7	448.8	398.2	383.4	384.4	377.4	358.6	328.9	296.2	268.5
62.5°	1558.3	760.8	492.3	435.9	433.9	443.8	443.8	411.1	362.6	313.0	275.4
65°	1692.0	789.5	498.3	440.8	457.7	486.4	484.4	440.8	374.5	313.0	272.4
67°	1658.3	758.8	473.5	412.1	431.9	464.6	460.6	419.0	356.6	300.2	264.5
67.5°	1631.6	748.9	467.6	405.2	425.0	451.7	451.7	410.1	348.7	296.2	261.5
70°	1436.4	661.7	437.9	378.4	378.4	385.4	380.4	350.7	309.1	272.4	249.6
72.5°	1197.7	578.5	414.1	359.6	340.8	336.8	329.9	309.1	282.3	256.6	236.8
75°	928.2	512.2	395.3	339.8	315.0	306.1	299.2	283.3	262.5	240.7	223.9
77.5°	649.9	438.8	370.5	322.9	296.2	289.3	278.4	260.5	243.7	224.9	209.0
80°	403.2	362.6	322.9	291.2	263.5	253.6	239.7	223.9	210.0	199.1	187.2
82.5°	287.3	266.5	240.7	223.9	195.2	165.4	177.3	178.3	169.4	162.5	159.5
85°	192.2	173.4	160.5	145.6	128.8	115.9	118.9	127.8	128.8	125.8	125.8
87.5°	105.0	89.2	86.2	89.2	77.3	73.3	74.3	82.2	83.2	83.2	84.2
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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7.5°	2039.7	2043.7	2045.7	2042.7
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12.5°	2033.8	2043.7	2049.6	2049.6
15°	2031.8	2039.7	2041.7	2041.7
17.5°	2001.1	2001.1	2002.1	1998.1
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42.5°	826.2	836.1	826.2	824.2
45°	648.9	659.8	659.8	662.7
47.5°	500.3	498.3	502.2	503.2
50°	378.4	372.5	370.5	367.5
52.5°	300.2	293.2	289.3	284.3
55°	264.5	256.6	252.6	251.6
57.5°	252.6	242.7	236.8	235.8
60°	249.6	235.8	227.8	225.9
62.5°	249.6	232.8	223.9	220.9
65°	246.7	229.8	221.9	218.9
67°	242.7	227.8	219.9	217.9
67.5°	240.7	226.9	219.9	216.9
70°	235.8	223.9	216.0	213.0
72.5°	224.9	215.0	207.0	205.1
75°	213.0	204.1	199.1	197.1
77.5°	199.1	191.2	185.2	180.3
80°	178.3	169.4	160.5	158.5
82.5°	151.6	141.7	134.7	133.7
85°	121.8	113.9	106.0	106.0
87.5°	85.2	80.2	75.3	70.3
90°	0.0	0.0	0.0	0.0

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