

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: P197198

Luminaire Tested: **NAV-AF-02-D-UNV-SLR-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197198
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-SLR-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8779 lumens
Efficiency: N/A
Efficacy: 77.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

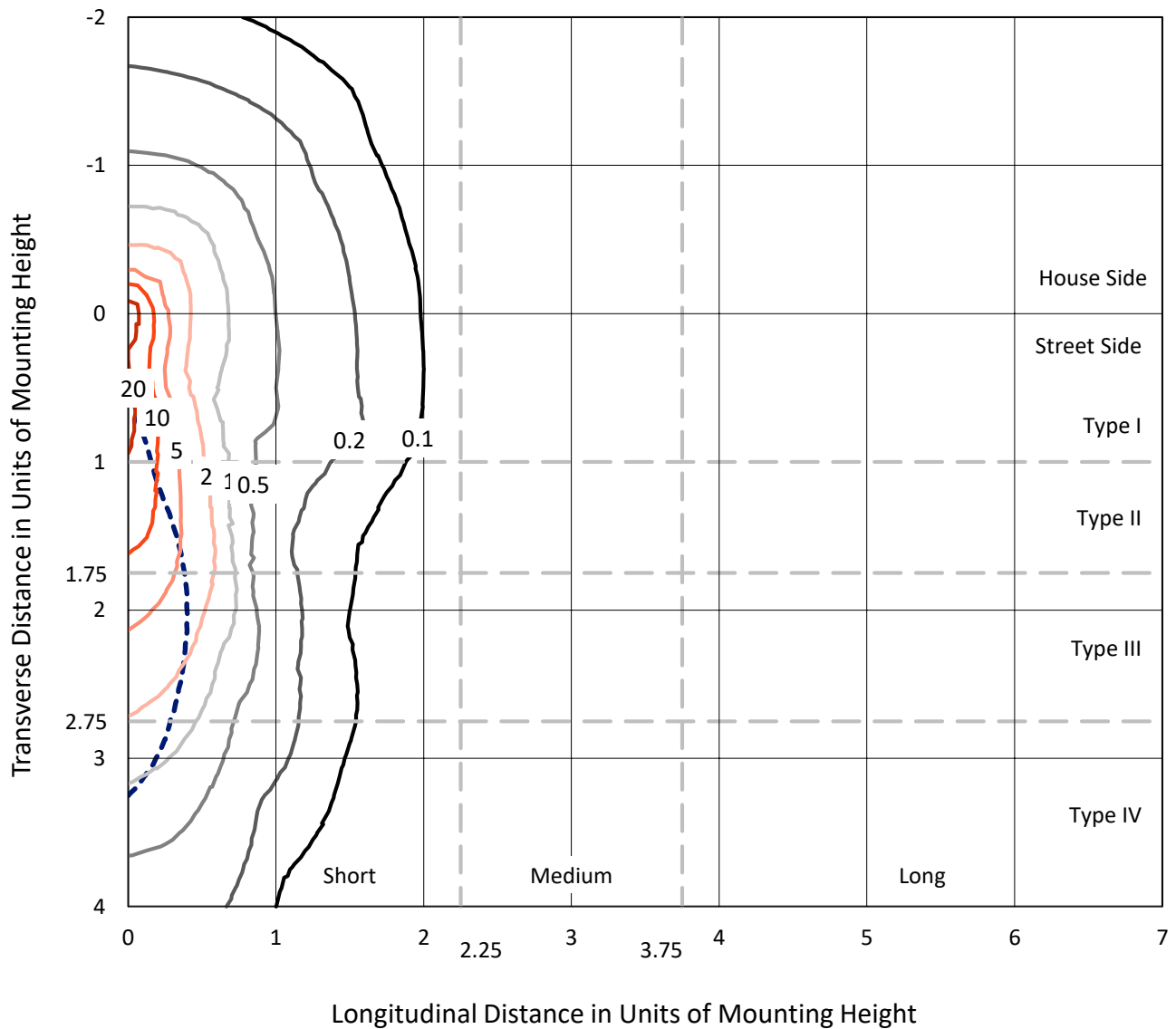
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

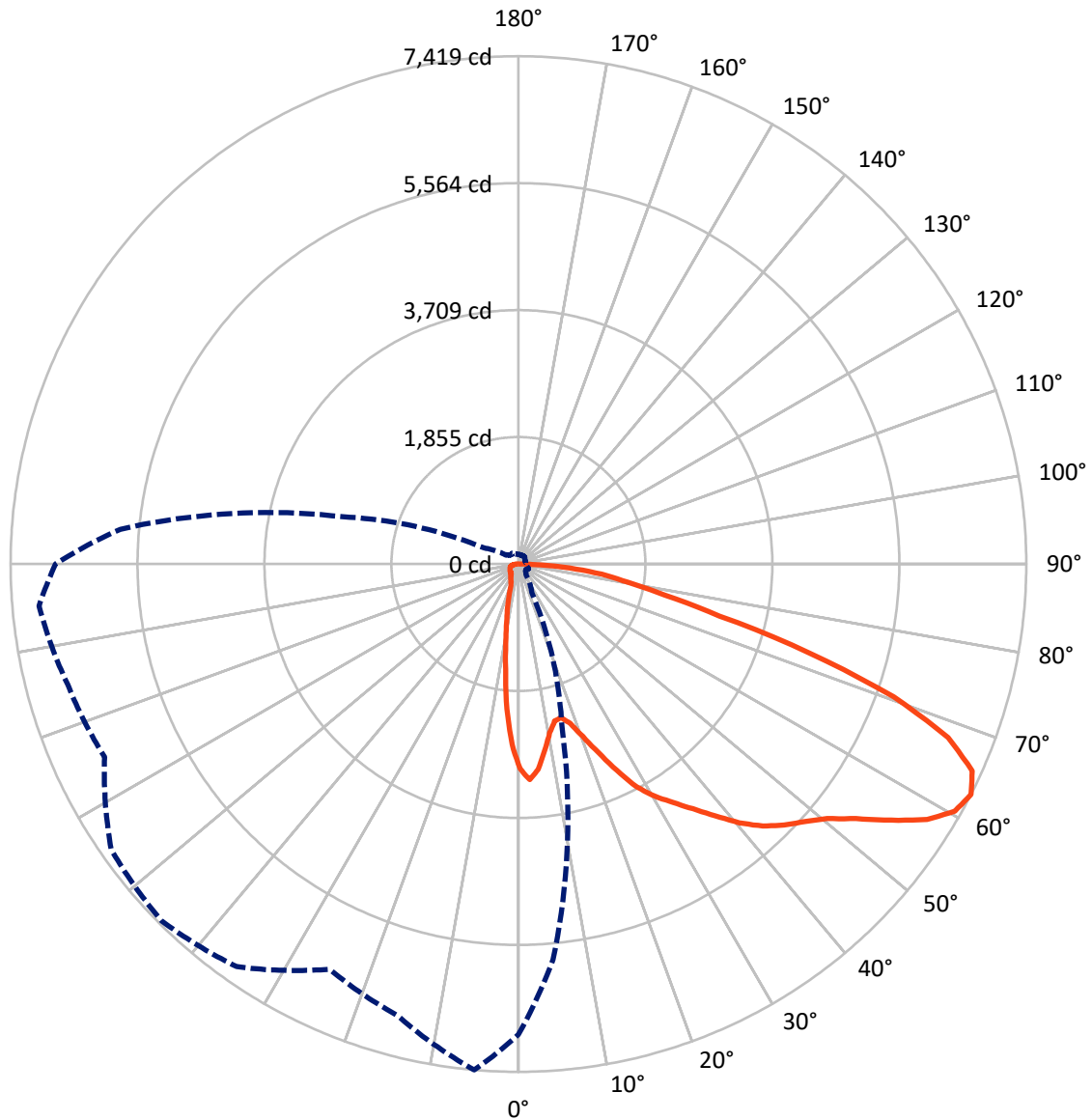
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 29.9 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1555.2	0.0	1555.2
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	7223.8	0.0	7223.8
	% Fixture	82.3	0.0	82.3
Total	Lumens	8779.0	0.0	8779.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	217.7	2.5
10°-20°	397.6	4.5
20°-30°	571.8	6.5
30°-40°	875.8	10.0
40°-50°	1280.4	14.6
50°-60°	1863.0	21.2
60°-70°	2158.5	24.6
70°-80°	1125.2	12.8
80°-90°	289.2	3.3
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°	8779.0	100.0
0°-180°	8779.0	100.0

Coefficient of Utilization



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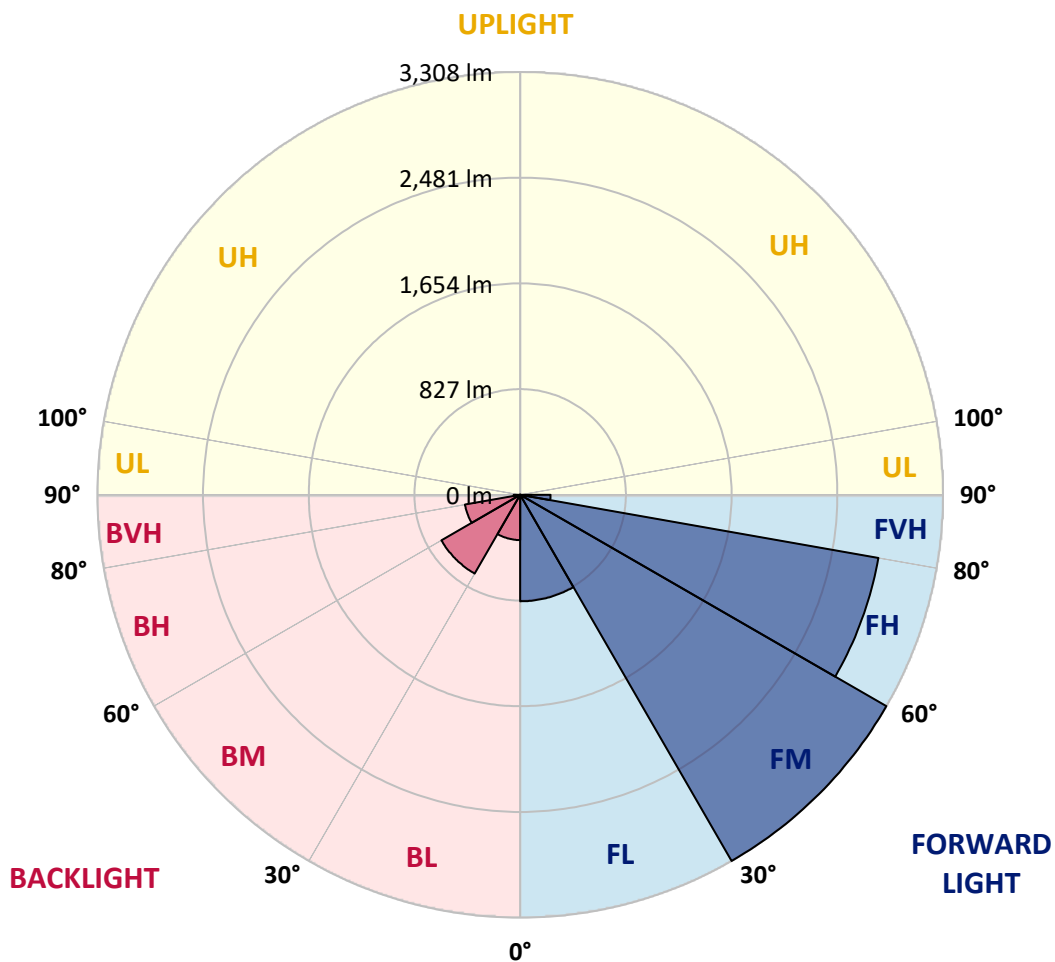
CATALOG NUMBER: NAV-AF-02-D-UNV-SLR-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	833.2	9.5			
FM	(30°-60°)	3307.5	37.7			
FH	(60°-80°)	2845.1	32.4			G2/5000
FVH	(80°-90°)	237.9	2.7			G3/500
BL	(0°-30°)	353.8	4.0	B1/500		
BM	(30°-60°)	711.6	8.1	B1/1000		
BH	(60°-80°)	438.5	5.0	B1/500		G1/500
BVH	(80°-90°)	51.3	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9
2.5°	3089.7	3046.4	2946.5	2858.6	2749.1	2667.0	2567.1	2514.3	2475.4	2449.3	2428.3
5°	2886.0	2781.6	2590.7	2423.2	2242.5	2112.0	1959.2	1875.8	1824.3	1796.3	1783.5
7.5°	2583.7	2445.5	2198.6	1973.9	1747.9	1584.9	1469.1	1345.6	1280.0	1237.4	1223.4
10°	2319.5	2163.5	1868.8	1616.1	1441.7	1325.9	1226.6	1113.3	1029.3	956.1	928.7
12.5°	2166.1	1984.7	1648.6	1420.1	1273.7	1149.6	1044.5	922.3	833.8	757.5	728.2
15°	2133.6	1931.2	1556.3	1295.3	1115.8	966.2	840.2	707.2	620.6	557.6	537.2
17.5°	2231.7	1982.1	1517.5	1181.4	965.0	782.3	627.0	484.4	412.5	378.1	369.8
20°	2433.4	2094.2	1499.0	1078.9	818.6	602.2	433.5	329.1	293.4	283.3	282.6
22.5°	2698.9	2276.2	1519.4	994.9	681.1	444.3	317.6	270.5	255.9	250.2	250.2
25°	2998.7	2522.5	1573.5	930.6	560.1	345.6	273.7	248.2	236.2	230.4	231.1
27.5°	3365.3	2822.3	1647.3	871.4	473.6	303.0	255.9	234.2	222.1	216.4	217.1
30°	3641.6	3080.1	1711.0	817.3	429.0	285.8	246.3	226.0	212.6	204.3	203.7
32.5°	3900.0	3307.4	1762.5	778.5	403.6	255.2	222.8	207.5	196.0	186.5	184.6
35°	4185.8	3521.3	1786.7	777.2	387.0	230.4	203.7	185.2	173.8	163.0	161.0
37.5°	4509.8	3782.9	1807.1	784.8	378.1	214.5	194.8	177.0	167.4	156.6	154.0
40°	4847.1	4038.7	1823.0	791.2	376.8	203.7	187.8	171.9	162.3	150.9	148.3
42.5°	5136.7	4265.3	1844.6	788.7	367.9	201.8	183.3	167.4	158.5	147.0	143.9
45°	5368.4	4445.5	1878.4	788.0	354.5	206.2	182.0	166.1	155.3	143.2	140.7
47.5°	5584.2	4648.5	1949.7	785.5	339.9	205.0	189.0	164.9	154.0	141.9	140.0
50°	5831.2	4921.6	2071.2	766.4	319.5	196.0	201.8	163.6	150.9	140.0	138.1
52.5°	6174.9	5321.3	2251.4	732.0	291.5	186.5	203.7	163.0	145.8	136.2	133.7
55°	6579.1	5749.7	2445.5	682.4	254.6	170.0	193.5	160.4	140.7	130.5	126.7
57.5°	6891.6	6066.1	2581.1	611.1	218.3	160.4	172.5	154.7	134.3	124.1	120.9
60°	6979.5	6080.1	2605.3	525.8	199.9	154.0	148.3	168.7	129.2	118.4	115.2
62.5°	6874.5	5801.9	2447.4	465.9	193.5	147.7	134.9	161.0	124.1	113.3	110.1
65°	6563.2	5332.2	2094.2	457.0	199.9	141.9	127.9	128.6	119.0	108.2	105.0
67.5°	5836.3	4640.9	1649.9	462.8	207.5	136.2	122.8	117.1	113.3	103.8	99.9
70°	4746.6	3736.4	1299.8	472.9	214.5	128.6	116.5	109.5	106.3	96.1	94.2
72.5°	3656.2	2990.4	1025.4	465.9	221.5	120.9	107.6	101.8	98.0	88.5	86.6
75°	2596.4	2376.1	753.6	399.7	203.1	110.1	97.4	92.3	89.1	78.9	78.3
77.5°	1871.4	1779.7	524.5	300.4	160.4	96.8	85.9	81.5	79.6	68.1	68.1
80°	1492.6	1354.5	313.8	196.0	117.1	80.2	71.9	70.0	68.1	56.7	57.3
82.5°	1072.5	939.5	200.5	122.2	85.9	61.1	56.0	55.4	52.2	42.0	42.0
85°	550.0	479.9	128.6	82.1	60.5	39.5	36.9	35.6	33.7	26.1	26.1
87.5°	106.9	147.0	71.3	40.1	29.3	14.0	14.0	12.1	14.0	9.5	10.2
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9
2.5°	2468.4	2455.7	2446.8	2442.3	2506.6	2533.4	2563.9	2607.8	2637.8	2625.0	2665.8
5°	1843.4	1852.3	1872.7	1904.5	1994.2	2036.9	2064.2	2100.5	2126.6	2100.5	2143.8
7.5°	1260.3	1273.7	1317.0	1382.5	1490.7	1538.5	1548.0	1548.7	1542.9	1500.3	1529.6
10°	928.1	901.3	910.9	958.0	1054.7	1097.4	1101.8	1090.4	1088.5	1071.3	1104.4
12.5°	719.3	682.4	660.7	668.4	740.9	775.9	781.7	788.0	814.1	822.4	863.1
15°	536.6	517.5	501.6	494.6	542.3	569.7	572.9	588.1	615.5	623.2	658.2
17.5°	377.5	382.6	390.8	394.0	428.4	446.2	441.1	441.1	445.6	443.7	463.4
20°	288.3	298.5	314.4	329.7	360.9	371.1	358.4	342.4	332.3	327.2	331.6
22.5°	254.6	261.6	271.8	291.5	317.6	322.7	306.2	293.4	283.9	278.8	279.4
25°	236.2	243.2	251.4	267.3	289.6	292.2	276.9	268.6	261.0	255.9	254.6
27.5°	220.2	224.7	229.8	240.0	262.9	264.2	254.0	248.9	243.8	240.0	238.7
30°	205.6	207.5	209.4	219.6	236.8	238.7	233.6	231.1	229.1	226.6	226.6
32.5°	186.5	189.0	192.2	201.1	217.7	220.2	217.1	215.1	212.0	210.7	208.8
35°	163.6	170.0	177.0	187.8	205.6	206.9	203.1	197.3	189.7	187.8	186.5
37.5°	154.0	155.3	164.2	177.0	195.4	196.7	191.6	182.0	176.3	177.0	178.2
40°	147.7	149.6	154.7	167.4	185.9	187.8	183.3	176.3	170.6	171.2	173.1
42.5°	142.6	145.1	148.3	156.6	175.0	178.9	177.6	171.2	165.5	166.8	169.3
45°	140.0	141.9	141.9	147.7	165.5	171.2	171.9	166.8	162.3	163.6	166.8
47.5°	138.8	138.8	136.9	141.3	159.1	164.9	166.1	163.6	161.0	162.3	165.5
50°	136.9	134.3	132.4	136.2	154.0	159.1	160.4	158.5	159.8	162.3	164.2
52.5°	131.1	128.6	128.6	131.1	148.9	154.0	154.7	153.4	155.9	159.1	162.3
55°	124.1	124.1	124.8	127.3	146.4	150.2	149.6	148.3	150.9	154.7	157.9
57.5°	117.8	117.1	120.3	123.5	143.2	145.8	144.5	144.5	146.4	149.6	152.8
60°	113.9	110.8	113.3	118.4	140.0	142.6	140.7	140.0	143.2	145.8	148.3
62.5°	110.1	106.9	108.8	113.9	135.6	137.5	136.2	136.2	139.4	141.3	143.9
65°	104.4	103.1	104.4	109.5	131.8	132.4	132.4	133.0	135.6	136.9	139.4
67.5°	99.3	99.3	99.9	105.0	128.6	127.3	127.3	130.5	131.1	132.4	134.9
70°	92.9	94.2	94.2	100.6	126.0	121.6	122.2	124.8	126.0	127.3	127.9
72.5°	85.9	86.6	87.8	96.1	122.2	115.8	116.5	118.4	119.0	120.9	121.6
75°	78.3	78.9	80.8	91.7	119.7	110.1	108.8	110.1	111.4	112.7	112.0
77.5°	69.4	70.7	72.6	89.1	111.4	108.8	99.3	100.6	101.8	101.8	101.2
80°	58.6	60.5	63.7	85.3	94.2	105.0	88.5	89.1	89.7	89.7	88.5
82.5°	43.9	47.7	52.2	70.7	73.8	89.7	76.4	77.7	75.7	74.5	73.8
85°	28.6	31.8	38.2	49.0	54.1	70.7	63.0	63.7	59.8	59.2	59.2
87.5°	11.5	12.1	17.2	24.8	32.5	43.9	45.2	46.5	43.3	43.3	44.6
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9
2.5°	2727.5	2791.2	2864.4	2938.8	2999.9	3078.9	3155.2	3236.7	3278.1	3302.3	3370.4
5°	2211.3	2298.5	2402.2	2518.7	2615.5	2781.0	2959.2	3157.8	3253.3	3347.5	3525.7
7.5°	1581.8	1667.1	1788.0	1938.9	2076.3	2294.7	2529.5	2798.2	2930.6	3083.3	3375.5
10°	1174.4	1264.8	1374.3	1502.2	1637.8	1865.0	2128.5	2430.2	2576.0	2748.5	3080.8
12.5°	952.2	1057.9	1171.2	1285.8	1402.3	1555.0	1831.3	2166.7	2323.3	2497.1	2830.0
15°	742.8	856.1	978.3	1103.1	1218.9	1389.5	1671.5	2068.1	2246.9	2415.0	2687.4
17.5°	525.8	632.7	770.2	921.7	1089.7	1291.5	1637.1	2111.4	2328.4	2504.1	2686.8
20°	358.4	432.2	569.7	749.2	956.7	1212.6	1649.9	2263.5	2534.6	2727.5	2796.9
22.5°	286.4	321.4	414.4	597.1	842.1	1155.3	1702.1	2472.3	2830.6	3065.5	2997.4
25°	260.3	280.1	328.4	471.7	740.3	1117.1	1803.9	2747.9	3162.3	3400.3	3238.6
27.5°	244.4	261.6	292.8	387.6	652.4	1092.3	1933.1	3072.5	3535.9	3731.3	3490.1
30°	234.2	251.4	280.1	348.2	586.2	1055.4	2046.4	3369.1	3834.4	3961.1	3625.6
32.5°	214.5	227.9	251.4	311.9	536.6	1012.1	2144.4	3634.6	4116.4	4158.4	3788.6
35°	194.1	208.1	231.7	282.6	507.3	978.3	2196.0	3870.1	4395.8	4355.7	3950.3
37.5°	186.5	198.0	219.6	261.6	491.4	956.1	2215.7	4101.8	4695.6	4574.1	4062.9
40°	181.4	191.6	210.7	247.6	486.9	935.1	2211.3	4322.0	4986.5	4800.0	4151.4
42.5°	177.6	186.5	204.3	238.1	474.8	915.3	2196.6	4512.3	5219.5	4994.8	4236.1
45°	174.4	184.0	201.8	243.2	452.6	893.7	2187.7	4686.1	5398.4	5159.0	4349.4
47.5°	173.1	184.0	202.4	241.9	428.4	869.5	2219.6	4879.0	5554.3	5297.2	4500.2
50°	171.2	183.3	216.4	230.4	395.3	839.6	2327.1	5108.7	5717.9	5452.5	4695.6
52.5°	168.0	182.7	231.1	221.5	352.6	798.2	2501.5	5433.4	6000.5	5754.8	4984.6
55°	164.2	184.0	220.9	207.5	307.4	744.7	2675.9	5878.3	6458.8	6242.4	5399.6
57.5°	159.8	182.0	208.8	194.8	269.9	677.3	2808.3	6243.0	6836.9	6745.2	5909.5
60°	156.6	186.5	187.8	187.1	245.7	613.0	2821.1	6219.5	6945.8	7071.8	6408.5
62.5°	152.8	190.3	171.2	181.4	233.6	553.1	2663.9	5834.4	6761.8	7029.8	6815.3
65°	147.7	166.1	162.3	176.3	233.6	521.3	2297.9	5193.4	6253.2	6632.6	7036.1
67.5°	142.6	150.9	155.9	169.3	238.7	491.4	1846.6	4380.6	5451.2	5991.6	6787.9
70°	135.6	142.6	148.9	163.0	236.2	470.4	1453.2	3511.1	4486.2	5104.9	6101.1
72.5°	129.2	134.3	140.7	153.4	236.2	460.8	1167.4	2754.2	3425.1	3946.4	5054.0
75°	119.7	124.1	129.9	143.9	231.7	421.4	876.5	2206.8	2506.0	2832.5	3987.8
77.5°	110.1	113.3	117.8	131.8	208.8	352.0	620.0	1709.1	1856.7	2037.5	3108.8
80°	98.0	100.6	103.8	117.8	173.1	273.1	403.6	1336.7	1388.3	1475.5	2045.2
82.5°	84.0	87.8	88.5	101.2	139.4	198.0	240.0	916.0	915.3	1043.3	1443.0
85°	68.7	70.7	71.9	79.6	103.1	131.8	157.9	500.3	446.2	625.1	1253.3
87.5°	51.6	49.6	51.6	53.5	68.1	77.7	84.7	92.3	55.4	113.3	728.8
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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CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9	2992.9
2.5°	3406.7	3444.2	3422.0	3395.2	3328.4	3230.4	3155.2	3089.7
5°	3649.2	3718.6	3688.0	3588.7	3415.6	3218.9	3012.0	2886.0
7.5°	3618.6	3756.1	3744.0	3578.5	3330.3	3040.7	2749.8	2583.7
10°	3374.2	3567.1	3600.2	3430.9	3168.0	2844.0	2507.3	2319.5
12.5°	3108.1	3270.5	3337.9	3273.6	3026.0	2697.0	2353.9	2166.1
15°	2885.4	2967.5	3034.3	3075.7	2922.3	2644.8	2327.1	2133.6
17.5°	2720.5	2704.6	2760.6	2859.9	2866.3	2714.1	2448.1	2231.7
20°	2640.9	2516.2	2548.6	2688.0	2851.0	2890.5	2689.3	2433.4
22.5°	2636.5	2441.7	2448.1	2598.3	2894.9	3131.1	2990.4	2698.9
25°	2705.2	2433.4	2439.2	2588.7	2972.6	3373.6	3338.6	2998.7
27.5°	2822.3	2469.1	2465.3	2630.8	3076.3	3576.0	3689.9	3365.3
30°	2949.0	2520.6	2511.1	2698.2	3178.2	3700.8	3939.4	3641.6
32.5°	3106.9	2612.3	2579.2	2796.9	3278.7	3820.4	4152.7	3900.0
35°	3257.1	2746.6	2698.9	2938.2	3386.3	3953.5	4391.4	4185.8
37.5°	3410.5	2947.1	2920.4	3141.9	3538.4	4097.9	4664.4	4509.8
40°	3607.2	3232.3	3219.5	3437.9	3741.5	4255.8	4970.6	4847.1
42.5°	3819.1	3535.3	3524.4	3777.8	3993.6	4414.3	5232.9	5136.7
45°	4034.9	3902.5	3905.1	4140.6	4259.0	4563.9	5439.1	5368.4
47.5°	4289.5	4304.2	4395.2	4516.8	4517.4	4730.6	5621.8	5584.2
50°	4612.9	4789.2	4957.2	4976.3	4778.4	4950.9	5845.2	5831.2
52.5°	4978.9	5348.7	5544.1	5483.7	5033.0	5224.0	6175.6	6174.9
55°	5413.6	5933.7	6117.6	6014.5	5337.9	5579.8	6607.1	6579.1
57.5°	5864.3	6496.4	6644.7	6510.4	5719.2	5994.1	7040.0	6891.6
60°	6351.2	6980.8	7131.6	6929.8	6146.9	6407.3	7326.4	6979.5
62.5°	6670.1	7264.0	7372.2	7178.7	6530.1	6828.0	7418.7	6874.5
65°	6686.7	7075.6	7104.2	7035.5	6693.1	7193.4	7285.0	6563.2
67.5°	6232.2	6255.1	6292.7	6366.5	6344.9	7030.4	6769.4	5836.3
70°	5260.2	4954.7	5078.2	5149.5	5309.9	6253.2	5816.6	4746.6
72.5°	4022.2	3576.0	3716.0	3691.8	4025.4	5129.1	4449.9	3656.2
75°	2894.9	2438.5	2449.3	2450.6	2892.4	4094.1	3034.3	2596.4
77.5°	1967.5	1725.6	1761.3	1739.0	1935.7	3207.4	2184.6	1871.4
80°	1345.6	1339.2	1346.9	1294.7	1290.9	2073.2	1617.4	1492.6
82.5°	998.1	922.3	911.5	856.1	989.2	1584.9	1227.9	1072.5
85°	787.4	510.5	443.7	535.3	856.8	1458.3	748.6	550.0
87.5°	333.5	200.5	121.6	240.6	476.1	1068.7	207.5	106.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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