

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: P145425

Luminaire Tested: **LDRL-SL4-F01-E**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145425
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33703)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL4-F01-E
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (7) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2379.2 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Luminous Opening: Rectangular (W 0.17' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

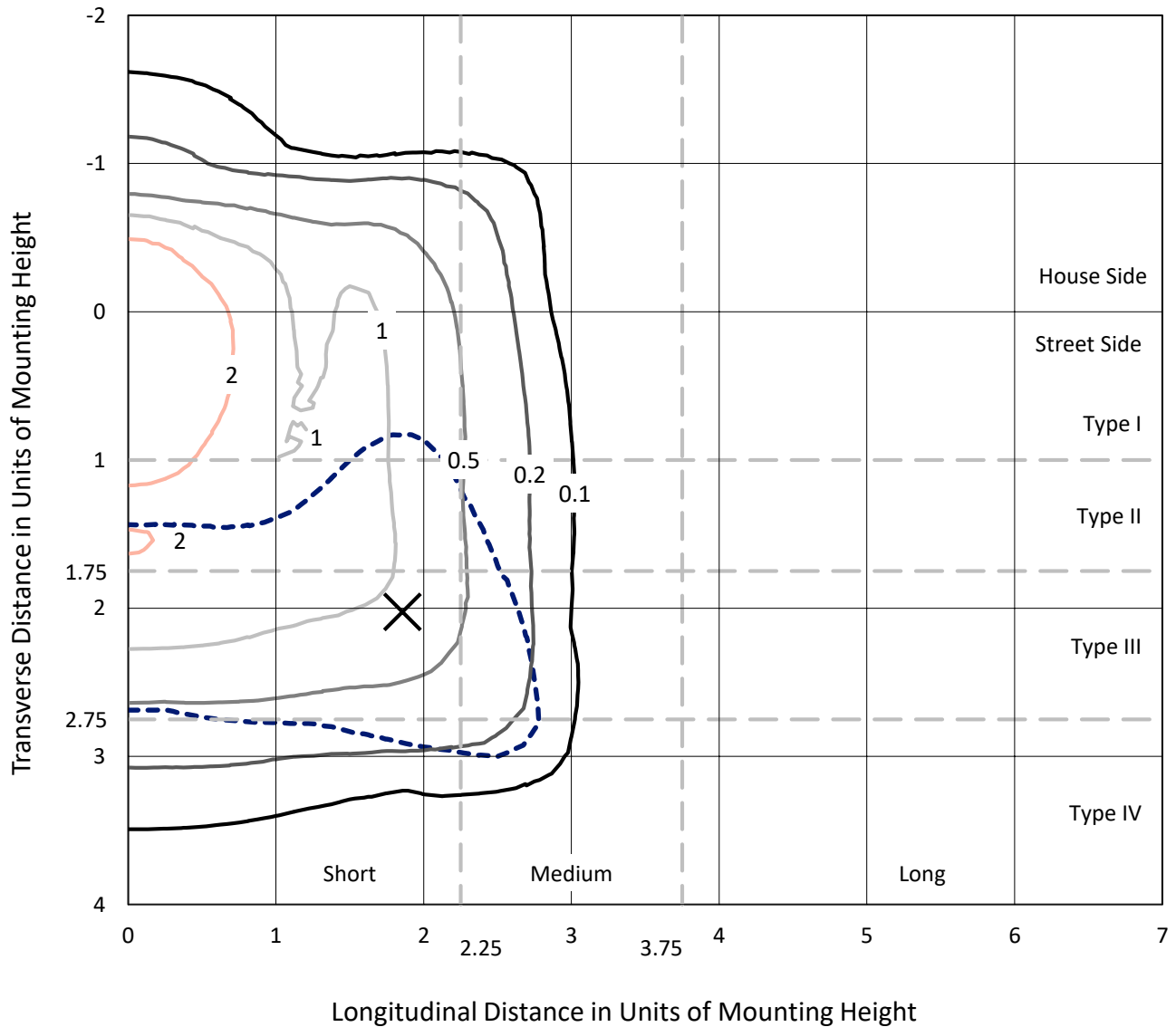
Input Watts (W): 25.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

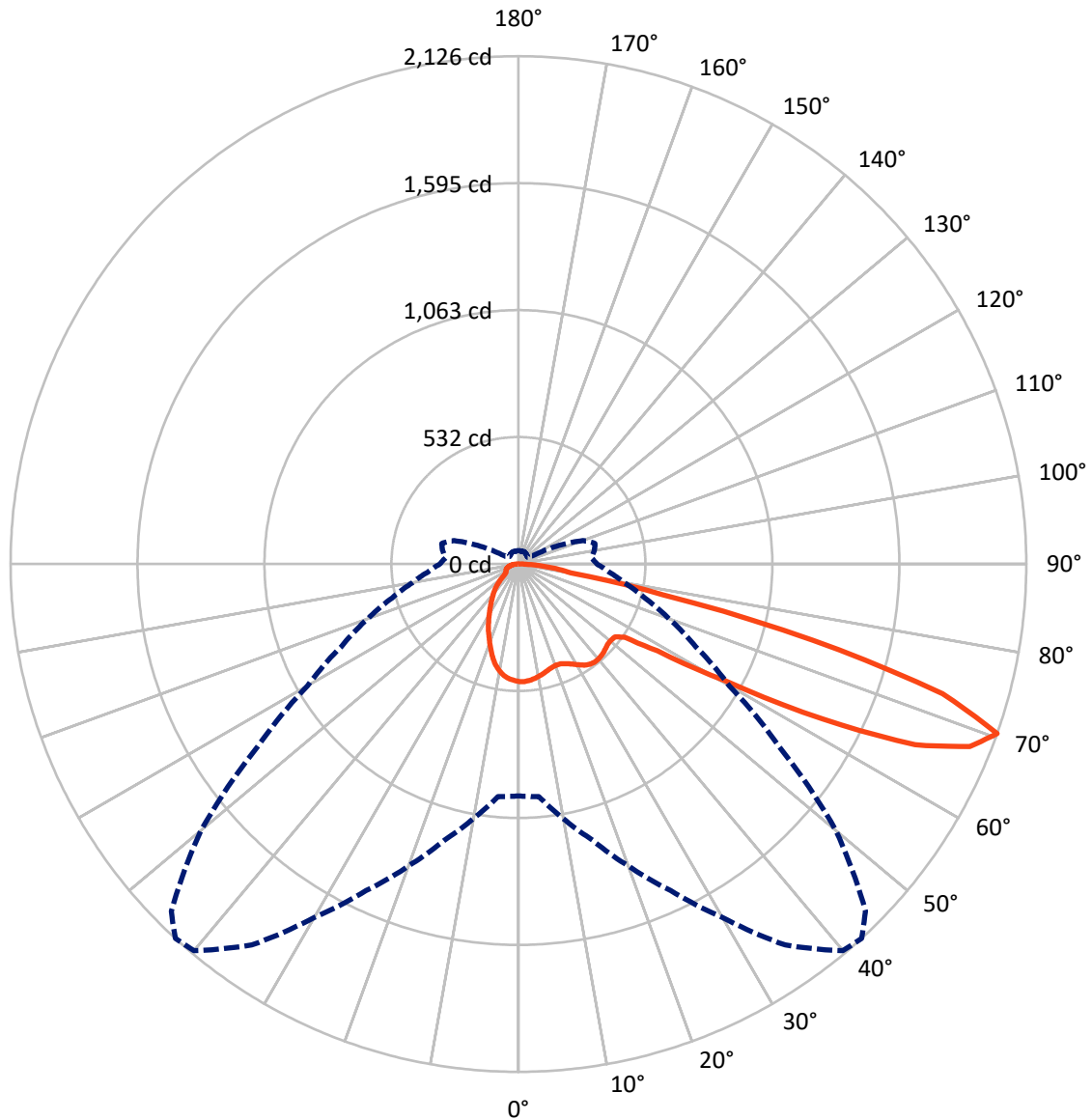
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.9 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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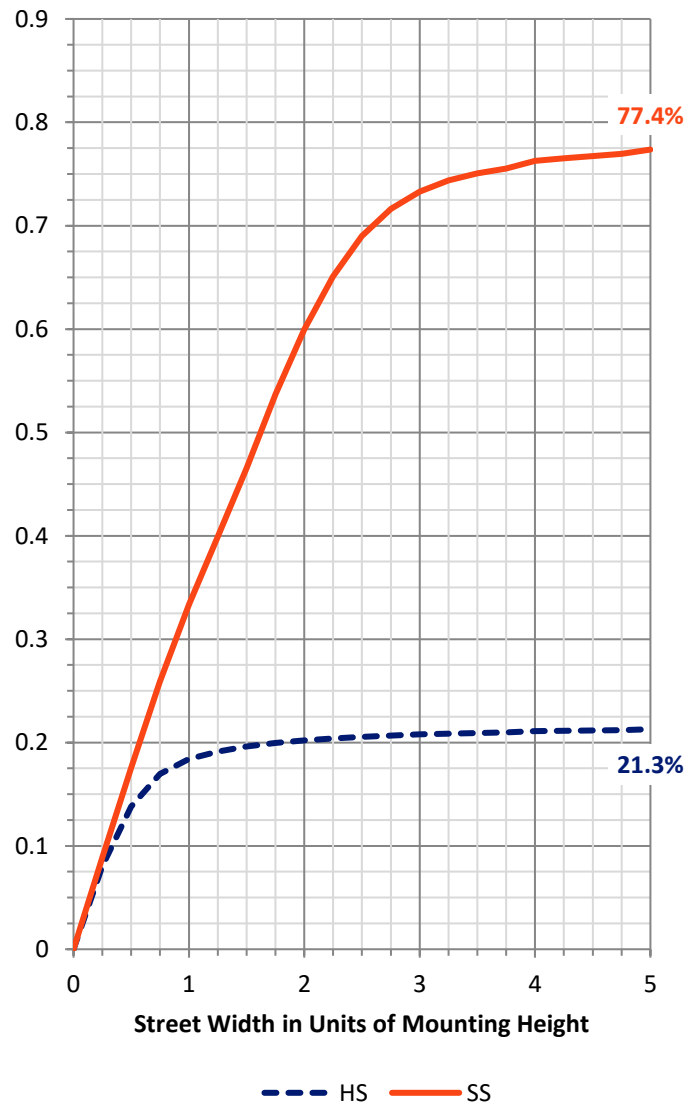
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	513.9	0.0	513.9
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	1865.2	0.0	1865.2
	% Fixture	78.4	0.0	78.4
Total	Lumens	2379.2	0.0	2379.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.8	1.9
10°-20°	123.3	5.2
20°-30°	179.9	7.6
30°-40°	229.4	9.6
40°-50°	267.8	11.3
50°-60°	409.5	17.2
60°-70°	742.3	31.2
70°-80°	330.1	13.9
80°-90°	51.1	2.1
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°	2379.2	100.0
0°-180°	2379.2	100.0



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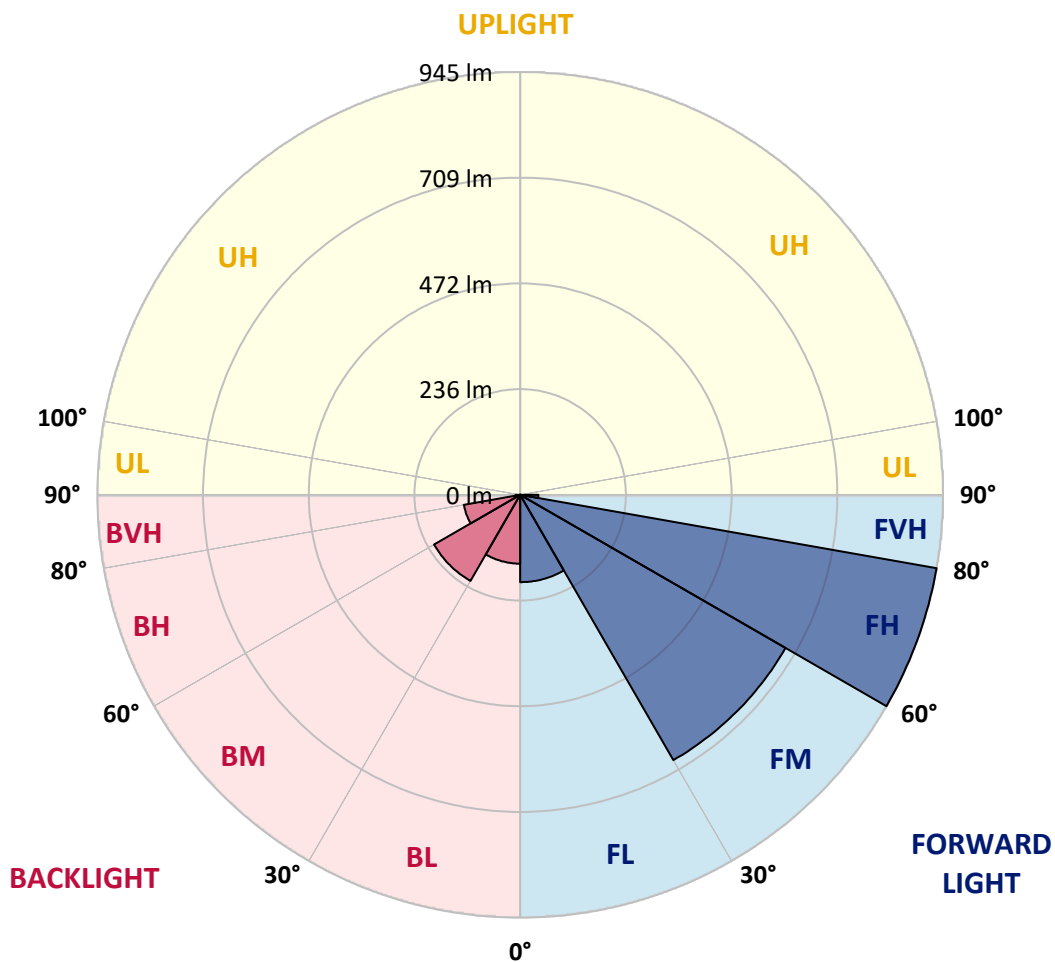
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	195.2	8.2			
FM	(30°-60°)	684.6	28.8			
FH	(60°-80°)	944.7	39.7			G1/1800
FVH	(80°-90°)	40.8	1.7			G1/100
BL	(0°-30°)	153.8	6.5	B1/500		
BM	(30°-60°)	222.2	9.3	B1/1000		
BH	(60°-80°)	127.7	5.4	B1/500		G1/500
BVH	(80°-90°)	10.3	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	492.0	492.0	492.0	492.0	492.0	492.0	492.0	492.0	492.0	492.0	492.0
2.5°	494.3	493.8	494.2	494.5	494.5	494.7	493.2	493.3	492.7	492.8	493.0
5°	492.5	492.0	492.3	492.3	492.3	492.2	490.2	490.0	489.2	489.2	488.9
7.5°	489.0	487.2	488.2	488.4	488.1	487.2	486.1	484.9	484.4	484.4	483.3
10°	483.8	481.8	482.3	482.6	482.4	480.8	480.3	479.1	477.8	477.3	476.0
12.5°	477.0	475.7	476.3	476.2	476.2	474.7	473.9	472.2	470.5	469.7	468.1
15°	472.7	471.0	471.7	471.7	471.0	469.6	468.4	465.4	462.6	461.6	459.5
17.5°	475.3	473.7	474.3	473.9	472.7	469.6	466.6	461.8	457.3	454.7	451.9
20°	485.9	484.3	484.7	484.4	482.8	477.6	472.2	463.9	455.7	451.7	447.4
22.5°	502.7	501.4	502.2	501.8	499.1	492.5	484.4	472.5	460.1	454.2	448.1
25°	527.7	527.3	528.7	527.2	523.4	513.5	501.8	485.7	469.6	462.1	453.5
27.5°	557.7	554.9	556.9	555.6	552.9	540.4	524.5	504.2	483.6	473.9	463.6
30°	584.8	582.3	586.0	585.3	581.3	568.5	548.5	524.7	501.4	489.0	477.3
32.5°	616.2	613.0	615.8	615.8	609.9	592.6	569.8	542.5	518.1	504.9	490.9
35°	649.0	645.7	648.4	647.5	637.0	614.0	585.5	555.9	529.0	515.5	501.1
37.5°	679.6	679.1	679.7	674.3	659.6	630.2	596.0	563.0	534.4	520.2	505.2
40°	710.1	709.0	706.2	696.6	675.1	639.8	601.5	565.5	534.8	519.9	504.7
42.5°	729.3	727.1	722.3	709.3	682.4	642.1	599.8	561.7	530.8	515.6	500.8
45°	735.9	733.7	727.9	713.3	682.5	638.5	593.4	554.1	523.4	509.5	494.5
47.5°	730.4	729.1	723.8	709.1	677.3	631.7	585.3	546.5	516.3	502.7	488.7
50°	721.2	720.4	715.7	702.2	672.3	627.6	581.5	542.9	514.3	501.8	488.5
52.5°	744.3	741.8	733.6	717.5	682.7	635.0	587.4	548.3	518.9	506.2	492.7
55°	1028.4	1010.1	969.2	892.4	784.9	701.5	631.4	584.1	552.4	540.1	527.2
57.5°	1352.5	1333.4	1316.4	1257.8	1130.1	972.6	831.0	748.1	691.3	685.8	680.7
60°	1477.4	1483.5	1482.0	1460.2	1394.8	1320.0	1201.5	1103.6	995.1	990.6	997.1
62.5°	1563.4	1568.5	1569.2	1562.6	1541.3	1516.3	1491.6	1460.2	1439.6	1430.6	1373.0
65°	1598.9	1606.3	1622.7	1634.9	1638.3	1646.9	1669.4	1754.7	1825.9	1825.4	1757.9
67.5°	1463.3	1472.2	1534.2	1594.9	1645.9	1705.0	1796.0	1934.9	2042.0	2038.7	1983.4
70°	971.1	976.8	1081.9	1196.4	1344.8	1508.9	1707.7	1947.1	2113.2	2126.2	2054.9
72.5°	595.7	608.6	642.9	689.3	768.6	920.6	1216.2	1625.3	1869.0	1856.8	1800.0
75°	402.2	402.9	401.9	406.8	411.3	442.0	561.0	893.7	1266.0	1272.6	1248.2
77.5°	274.9	278.5	280.5	279.2	283.7	282.3	289.3	306.3	485.2	619.3	569.1
80°	240.2	241.7	243.9	240.7	232.5	227.8	234.3	228.2	215.0	222.1	212.7
82.5°	152.1	156.5	157.0	167.9	184.1	184.8	193.0	186.9	170.1	159.0	145.5
85°	109.3	111.0	113.9	114.6	109.0	104.2	107.2	102.0	92.0	86.0	76.1
87.5°	63.7	65.4	68.4	66.5	60.9	54.0	48.7	41.9	33.2	31.0	27.4
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	492.0	492.0	492.0	492.0	492.0	492.0	492.0	492.0	492.0	492.0	492.0
2.5°	493.2	492.3	491.7	491.4	492.0	491.4	490.7	490.4	489.7	489.9	489.0
5°	488.5	487.4	486.4	485.6	486.2	485.1	484.1	483.4	482.6	482.4	481.6
7.5°	482.1	480.3	479.0	477.5	475.8	474.8	473.7	472.5	470.7	470.5	470.2
10°	473.7	472.2	469.6	467.2	464.9	462.5	460.0	458.2	456.0	455.2	454.0
12.5°	465.3	462.3	459.2	455.5	452.7	448.8	445.5	442.0	438.8	436.9	434.7
15°	455.4	452.2	447.8	444.3	440.3	435.9	431.6	426.5	421.3	418.2	415.2
17.5°	446.8	442.8	439.2	434.2	430.3	425.1	418.7	413.3	407.1	402.0	396.6
20°	440.2	435.7	431.4	427.0	422.2	416.4	409.3	401.5	393.8	386.5	378.4
22.5°	437.5	430.4	425.6	421.5	416.6	410.0	402.0	392.5	382.9	373.6	364.2
25°	439.8	429.3	421.8	417.2	412.8	406.0	397.1	386.2	375.0	363.2	352.0
27.5°	446.1	432.7	422.2	414.9	409.8	403.2	393.3	381.9	369.2	356.0	343.9
30°	455.2	438.5	425.3	414.9	407.3	399.7	389.0	376.1	362.7	348.9	335.3
32.5°	465.1	445.0	429.1	415.4	403.7	394.1	382.9	370.3	356.1	341.4	326.9
35°	472.5	449.6	430.8	413.6	398.6	386.5	374.5	362.2	348.4	333.5	319.0
37.5°	475.7	451.4	430.4	409.8	391.5	378.3	365.7	353.5	340.1	326.1	312.7
40°	475.8	451.4	428.4	404.7	384.0	369.7	356.5	345.1	332.5	320.5	308.6
42.5°	472.7	449.1	424.8	399.9	378.6	362.4	348.9	337.1	327.1	316.3	306.3
45°	467.1	444.5	421.5	397.2	376.6	360.6	346.1	335.0	325.9	316.3	307.6
47.5°	462.8	441.8	421.7	401.0	381.4	364.9	349.2	337.5	329.7	322.1	315.8
50°	463.6	442.8	423.7	404.0	384.7	368.0	352.8	342.8	338.1	335.7	334.2
52.5°	467.9	446.8	432.2	419.2	412.9	402.7	394.3	386.7	387.8	381.9	374.3
55°	512.2	505.1	521.7	533.8	539.7	550.1	565.2	550.8	548.8	530.5	476.0
57.5°	687.7	704.5	730.1	748.3	750.1	746.9	734.6	722.7	703.3	675.8	599.5
60°	982.0	978.1	954.3	922.4	897.7	865.2	832.5	804.9	773.8	731.6	650.3
62.5°	1291.6	1196.2	1111.5	1039.3	978.1	923.8	874.4	833.0	790.4	729.6	643.1
65°	1541.6	1358.0	1208.7	1092.7	1001.5	924.8	861.0	803.9	746.9	676.6	592.7
67.5°	1720.2	1429.0	1203.8	1040.5	912.7	807.0	714.2	649.2	590.7	535.4	497.6
70°	1734.4	1330.7	1018.4	818.6	671.2	547.0	450.7	379.7	328.9	305.9	322.3
72.5°	1482.1	984.5	677.1	501.1	397.7	309.1	248.5	198.6	157.7	137.5	140.3
75°	872.9	472.7	304.9	227.2	185.6	148.3	128.3	108.3	95.6	76.6	61.3
77.5°	332.4	205.6	153.9	127.8	91.1	65.5	51.7	44.6	40.9	40.5	38.3
80°	191.5	150.7	105.5	69.0	50.5	42.8	36.7	31.4	29.2	28.7	29.6
82.5°	121.0	93.9	58.0	44.4	36.8	31.7	26.4	22.9	21.1	20.5	21.6
85°	62.6	47.1	35.3	30.4	28.2	25.8	21.1	17.7	17.5	18.3	21.1
87.5°	23.1	20.1	15.9	13.7	14.7	13.7	9.9	8.6	7.8	10.2	14.9
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	492.0	492.0	492.0	492.0	492.0	492.0	492.0	492.0	492.0	492.0	492.0
2.5°	489.0	488.7	488.9	488.5	488.5	489.0	488.4	487.9	488.7	488.7	489.2
5°	481.4	481.8	481.8	481.6	481.9	482.8	482.6	482.6	483.9	484.4	485.1
7.5°	469.4	469.9	470.1	470.5	470.7	471.9	472.7	473.7	475.7	476.2	477.6
10°	453.0	452.7	453.9	453.7	455.2	456.2	456.8	459.0	462.0	463.6	465.1
12.5°	433.7	433.7	434.4	434.6	435.9	437.2	438.0	440.7	443.1	445.3	448.6
15°	413.3	412.6	411.1	410.9	411.4	412.8	414.6	416.6	420.4	423.5	426.3
17.5°	391.8	389.8	388.0	385.7	385.5	385.4	386.3	387.8	393.8	396.9	400.9
20°	372.8	368.5	364.2	359.4	356.6	355.3	355.8	357.8	363.4	367.5	371.7
22.5°	355.8	349.4	342.6	335.0	330.4	327.6	327.9	328.7	332.9	335.3	337.5
25°	341.3	332.4	322.9	313.2	306.8	302.5	302.3	302.3	300.5	300.8	299.7
27.5°	331.4	319.0	306.9	295.5	287.1	282.8	277.0	272.9	269.3	264.3	262.2
30°	321.8	309.1	295.4	282.8	272.8	264.3	253.6	244.7	237.6	230.8	225.0
32.5°	313.2	300.0	287.0	273.2	259.4	244.9	230.8	220.6	210.5	200.1	193.2
35°	305.6	293.2	280.2	264.7	245.2	226.2	210.3	196.5	184.6	172.0	162.0
37.5°	301.3	290.1	276.6	255.4	231.0	209.4	191.7	176.2	160.3	145.3	132.9
40°	299.2	289.3	272.8	246.0	218.3	195.2	175.5	156.8	138.2	120.5	107.6
42.5°	298.8	289.3	267.1	236.4	207.4	182.6	160.6	138.2	115.6	98.4	87.0
45°	301.8	288.9	261.2	227.8	197.6	171.4	145.0	118.5	95.3	80.2	74.0
47.5°	310.4	290.1	256.6	220.6	188.4	159.0	127.1	96.8	76.9	70.2	70.0
50°	324.3	295.4	255.6	215.3	179.3	143.5	106.2	77.4	67.9	67.5	69.3
52.5°	346.2	305.3	258.1	211.7	168.4	123.3	84.0	66.9	65.1	66.9	69.2
55°	394.6	322.9	261.4	205.2	150.7	97.7	69.2	63.4	64.2	66.4	68.5
57.5°	482.6	359.6	264.8	190.7	122.2	75.1	62.2	62.1	63.6	65.4	67.4
60°	538.4	404.8	273.2	169.2	92.3	62.1	59.6	61.3	63.1	64.4	66.0
62.5°	540.2	416.7	277.7	146.3	68.7	56.8	57.3	60.4	62.6	63.1	63.9
65°	505.4	394.3	257.6	119.0	57.0	53.8	55.6	58.4	60.6	60.9	61.6
67.5°	441.5	347.7	218.3	89.8	51.8	51.5	53.5	55.6	57.1	58.4	59.4
70°	332.5	287.0	175.5	69.7	48.7	48.4	50.4	52.2	53.5	55.1	56.8
72.5°	168.6	198.6	133.1	57.0	44.4	44.7	46.9	48.5	49.5	51.0	52.7
75°	57.5	86.7	84.2	46.1	39.6	40.9	41.9	43.8	45.2	46.2	47.1
77.5°	36.0	37.6	43.4	37.1	35.0	35.3	37.0	38.6	40.3	40.9	41.3
80°	30.0	30.2	30.4	29.7	29.9	30.9	31.9	33.7	35.3	35.7	35.8
82.5°	23.8	25.4	25.3	25.1	25.9	26.9	27.6	28.2	28.9	29.2	29.7
85°	21.0	20.6	20.8	21.3	20.6	20.0	19.8	19.8	20.8	22.0	22.5
87.5°	19.2	16.3	12.2	11.6	11.6	11.2	10.6	10.6	11.6	12.5	13.0
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):

	160°	165°	170°	175°	180°
0°	492.0	492.0	492.0	492.0	492.0
2.5°	489.0	489.2	489.0	489.0	489.9
5°	485.4	486.1	485.7	486.2	486.7
7.5°	478.0	479.6	480.0	481.3	480.8
10°	467.2	468.4	470.1	471.4	470.9
12.5°	450.2	453.0	455.5	457.0	456.7
15°	428.6	432.6	435.9	437.0	435.7
17.5°	405.5	408.0	411.9	412.8	414.1
20°	376.3	376.1	379.6	379.6	378.9
22.5°	338.1	340.6	340.6	338.3	337.1
25°	299.2	300.0	297.5	298.0	294.9
27.5°	260.0	257.9	255.9	256.7	254.4
30°	222.7	218.1	216.1	216.5	214.0
32.5°	186.9	181.5	179.5	176.8	174.7
35°	154.4	145.8	140.7	139.3	140.8
37.5°	122.5	116.4	110.3	105.8	106.3
40°	96.9	90.6	86.7	84.9	84.5
42.5°	80.1	76.4	75.6	75.8	75.8
45°	72.6	72.8	73.5	74.1	74.3
47.5°	71.2	72.2	73.3	74.1	74.3
50°	71.0	72.0	72.8	73.8	74.1
52.5°	70.8	71.5	72.0	72.5	73.0
55°	70.2	70.5	70.3	70.7	71.2
57.5°	68.5	68.7	68.4	68.5	69.5
60°	67.0	67.2	66.5	67.4	67.5
62.5°	65.2	65.1	64.7	65.2	65.2
65°	62.6	61.6	61.9	62.4	62.6
67.5°	59.4	58.4	58.4	58.8	59.3
70°	55.5	55.0	55.0	55.6	56.3
72.5°	51.0	51.3	52.3	53.3	54.3
75°	47.4	48.2	49.2	51.7	53.2
77.5°	42.8	42.9	43.8	46.2	48.9
80°	36.3	36.2	36.3	36.7	37.1
82.5°	28.7	28.4	27.4	27.7	27.1
85°	21.1	20.6	19.5	18.7	18.5
87.5°	12.2	12.2	11.7	11.1	10.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)