

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: FAIL-SAFE

Report Number: 29688

Luminaire Tested: **FMV9LCY/UNV1 76**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 29688
Test Lab: LUMINAIRE TESTING LABORATORY, INC.
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMV9LCY/UNV1 76
Description: CAST GRAY ENAMEL ALUMINUM HEATSINK HOUSING, MOLDED SPECULAR PLASTIC REFLECTORS, CLEAR GLASS ENCLOSURE.
Light Source: 8 WHITE LEDS

Ballast/Driver: LED POWER SUPPLIES: THREE THOMAS RESEARCH PRODUCTS TRC-050S110SC

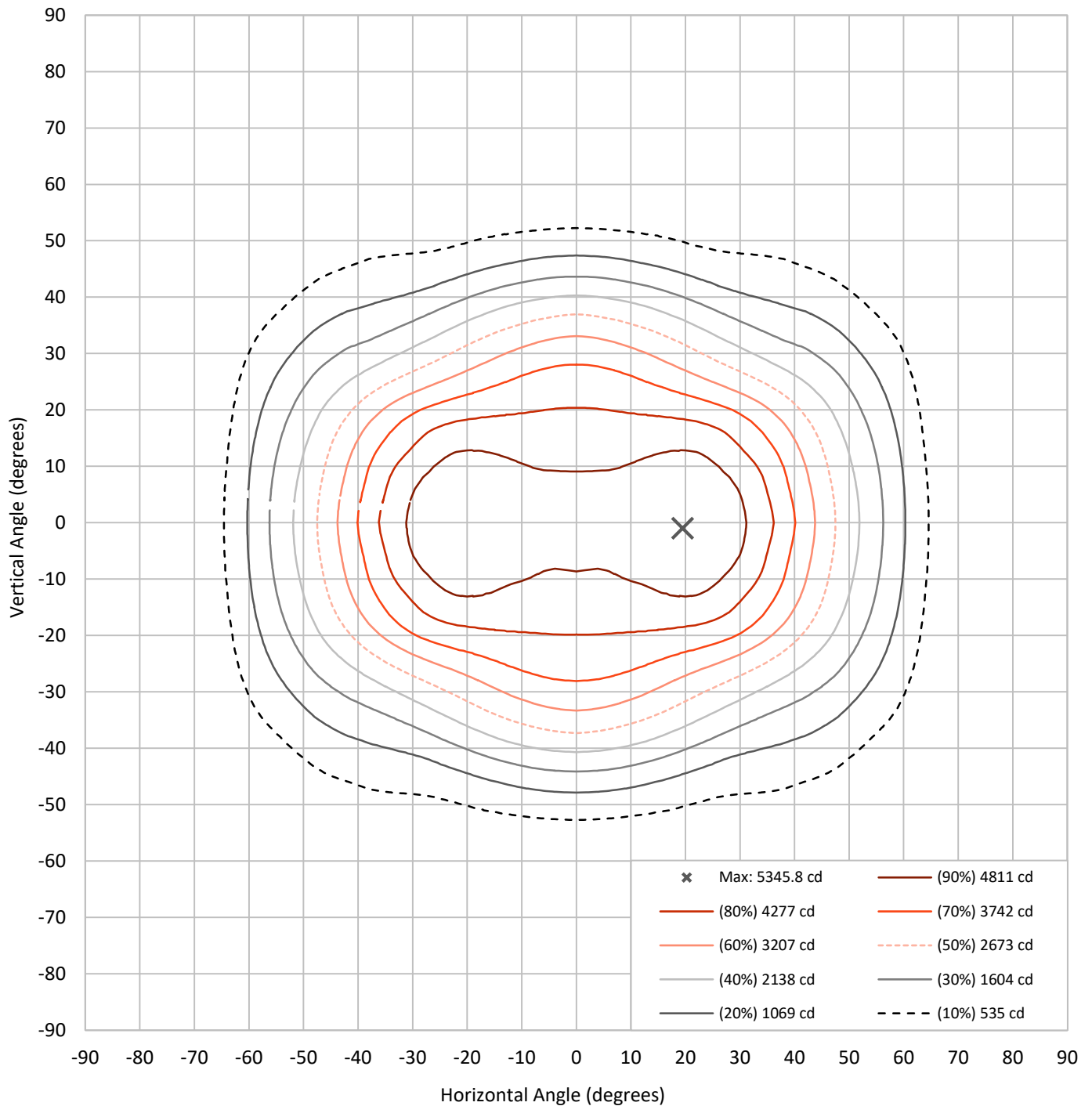
Summary

Lumens per Lamp:	N/A	NEMA Type:	6H x 6V
Luminaire Lumens:	8565.4 lumens	Max Intensity:	5345.8 candela
Efficiency:	N/A	Max Intensity Angle:	19.5°H x -1°V
Efficacy:	70.6 lumens/watt		
Luminous Opening:	Rectangular (W 1.29' x L: 0.83' x H: 0')		
Beam Angle (50%):	94.9°H x 63.6°V	Field Angle (10%):	128.8°H x 100.1°V
Beam Lumens:	6244.4 lumens	Field Lumens:	8295 lumens
Beam Efficiency:	72.9%	Field Efficiency:	96.8%
Input Watts (W):	121.4		
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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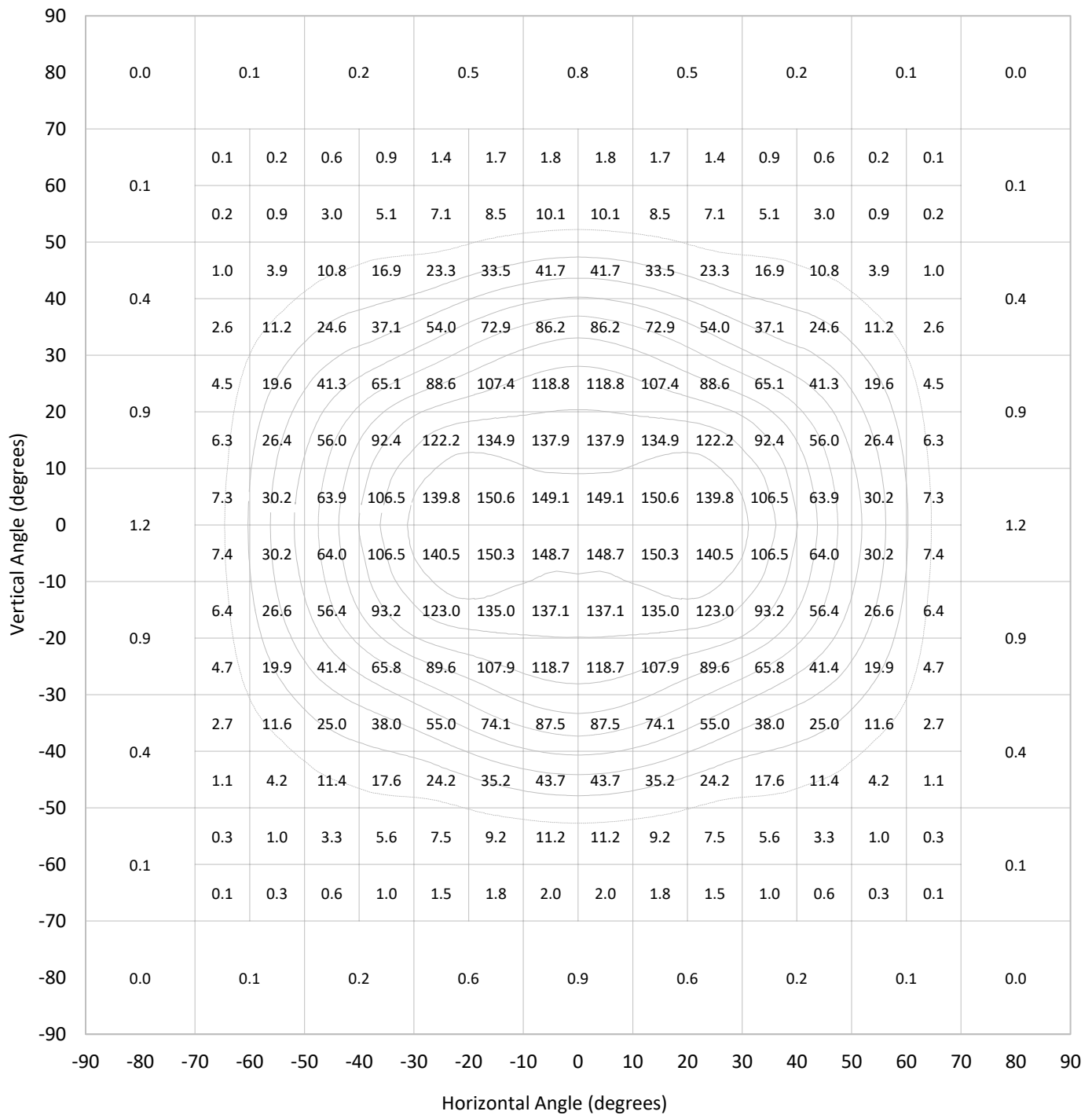
Iso-Candela Plot





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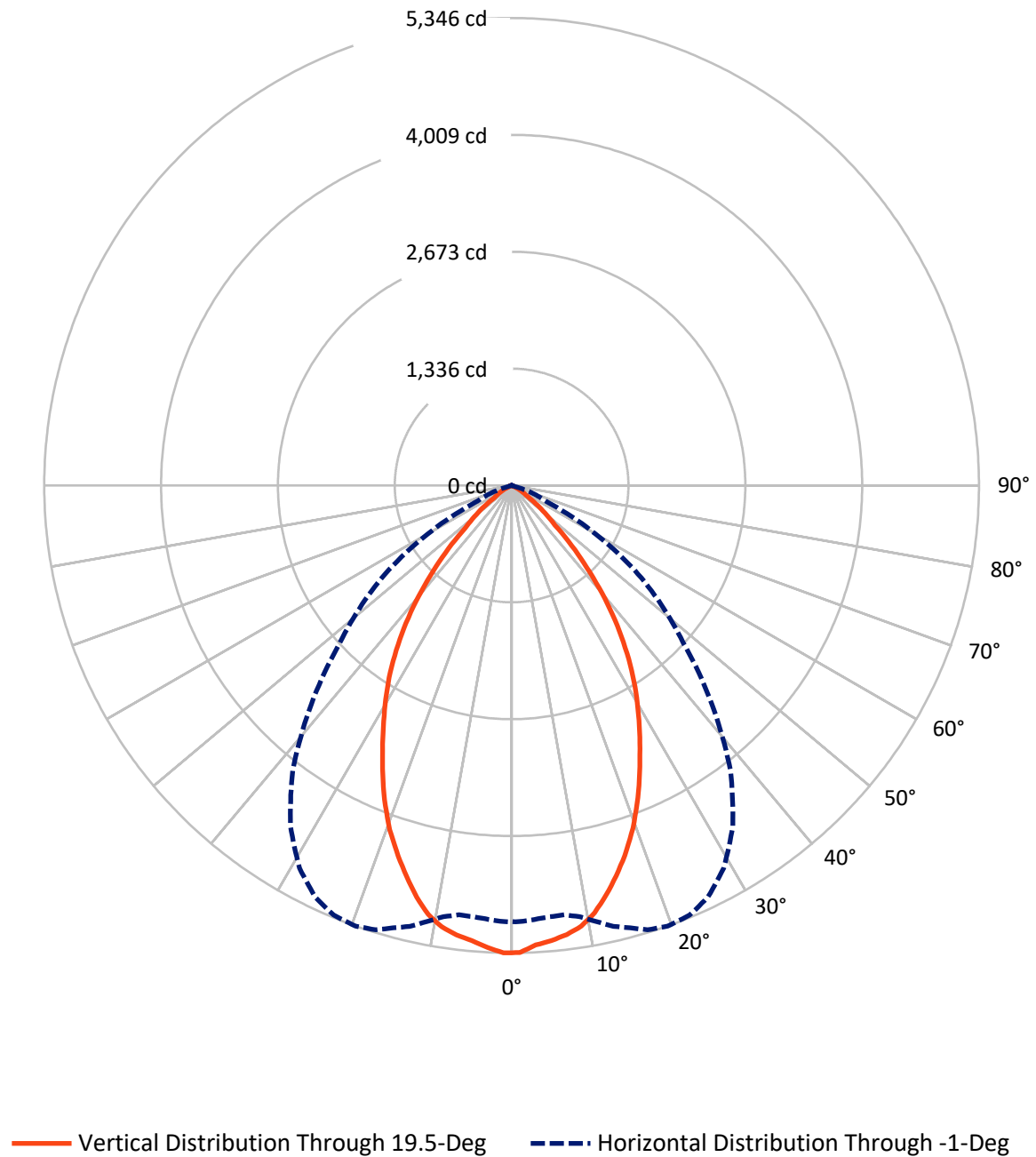
Lumen Table



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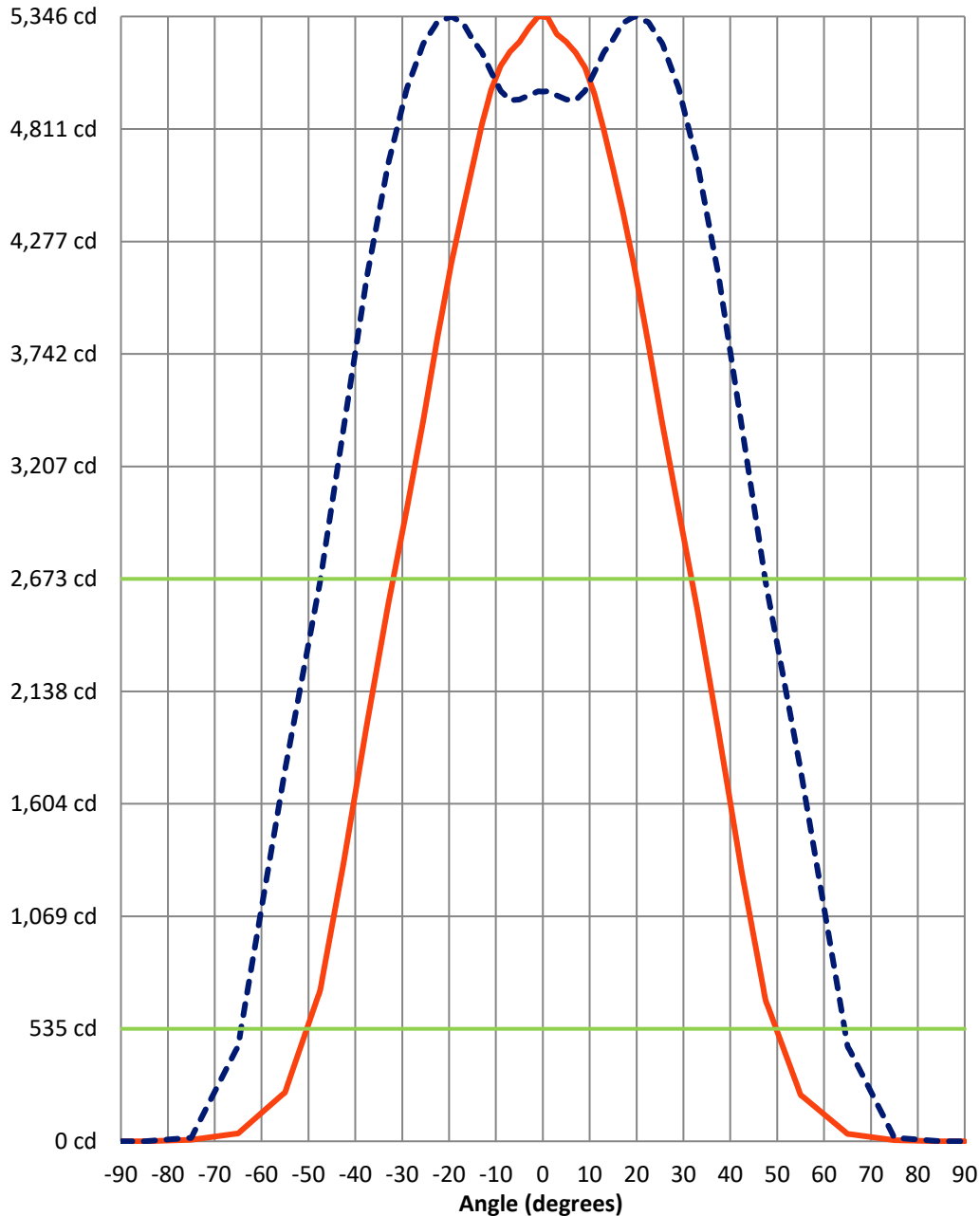
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Luminous Intensity Polar Plot



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Luminous Intensity Plot



Beam:
 H Angle: 94.9°
 V Angle: 63.6°
 Lumens: 6244.4
 Efficiency: 72.9%

Field:
 H Angle: 128.8°
 V Angle: 100.1°
 Lumens: 8295
 Efficiency: 96.8%

Spill:
 Lumens: 270.4
 Efficiency: 3.2%

— Vertical Distribution through 19.5-Deg
 - - - Horizontal Distribution through -1-Deg



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FIELD
 BEAM

CANDELA DISTRIBUTION:

	0°	1°	3°	5°	7°	9°	11°	13°	15°	17°	19.5°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	10.0	9.6	10.2	10.6	10.9	10.6	9.8	8.6	7.6	6.5	5.3
65°	36.7	36.2	36.4	37.1	38.1	38.8	39.3	39.1	38.2	37.2	35.5
55°	242.4	242.1	236.2	227.1	219.7	214.8	212.1	211.6	213.9	216.6	220.8
47.5°	1038.5	1035.1	1024.8	1004.5	976.4	939.7	891.1	839.6	790.7	738.6	672.8
42.5°	1768.5	1770.2	1759.6	1736.0	1694.4	1640.7	1586.9	1529.8	1461.8	1380.8	1272.9
37.5°	2604.6	2598.9	2567.2	2516.7	2465.7	2408.1	2335.6	2252.0	2159.7	2065.2	1944.5
33°	3235.1	3233.8	3208.3	3158.0	3091.3	3015.5	2936.3	2853.9	2761.6	2660.2	2522.3
29°	3662.0	3660.9	3648.1	3615.2	3565.7	3498.5	3416.6	3325.1	3227.2	3124.6	2994.4
25.5°	3956.7	3955.3	3943.6	3918.5	3880.4	3827.8	3764.5	3692.3	3612.1	3527.4	3409.8
22.5°	4157.4	4159.0	4147.3	4129.4	4101.5	4067.0	4026.4	3979.5	3929.7	3873.3	3791.4
19.5°	4326.9	4327.3	4323.6	4313.5	4297.6	4282.3	4264.8	4245.3	4224.1	4197.8	4156.9
17°	4457.6	4458.2	4455.2	4451.5	4444.0	4441.5	4446.8	4449.0	4451.2	4446.4	4425.9
15°	4556.0	4556.4	4556.9	4556.2	4551.6	4561.0	4578.8	4598.5	4617.9	4627.1	4620.8
13°	4644.4	4642.9	4651.2	4650.7	4654.9	4670.8	4701.0	4733.3	4764.3	4790.4	4807.3
11°	4733.9	4732.9	4740.7	4741.5	4747.3	4769.6	4809.0	4846.7	4886.9	4932.4	4978.0
9°	4819.0	4815.7	4824.6	4824.4	4829.4	4859.1	4902.1	4950.5	4995.4	5047.8	5102.7
7°	4882.9	4883.5	4885.9	4886.5	4896.2	4927.0	4977.9	5036.8	5092.0	5139.4	5174.4
5°	4932.9	4935.7	4931.9	4926.6	4932.6	4967.5	5030.0	5102.0	5168.5	5210.7	5225.1
3°	4974.1	4971.8	4965.8	4951.9	4948.4	4990.5	5062.4	5153.0	5223.5	5254.0	5261.9
1°	4991.9	4990.2	4980.5	4962.1	4956.6	4993.5	5078.5	5176.9	5255.5	5308.5	5341.3
0°	4993.0	4991.6	4978.0	4955.2	4952.1	4991.9	5079.7	5180.3	5243.4	5315.7	5345.4
-1°	4989.1	4989.9	4970.5	4951.3	4947.7	4993.0	5080.9	5174.9	5237.4	5313.8	5345.8
-3°	4975.2	4970.2	4948.0	4931.4	4939.7	4993.9	5071.2	5142.9	5208.6	5255.7	5291.2
-5°	4929.6	4926.2	4904.7	4894.3	4917.7	4975.7	5036.7	5083.0	5128.3	5178.3	5224.8
-7°	4871.2	4869.8	4848.5	4848.1	4878.6	4933.2	4978.3	5005.9	5049.8	5110.1	5178.5
-9°	4802.3	4799.5	4783.0	4786.5	4817.8	4860.1	4892.5	4920.5	4968.4	5032.5	5110.5
-11°	4710.5	4708.9	4699.6	4706.1	4732.3	4764.6	4791.9	4825.0	4873.3	4933.8	4998.8
-13°	4612.7	4615.2	4609.6	4618.2	4636.1	4661.1	4685.8	4721.9	4767.5	4804.8	4832.8
-15°	4521.0	4520.3	4521.3	4523.7	4534.4	4548.8	4572.0	4600.5	4624.3	4638.8	4632.9
-17°	4420.9	4422.1	4423.0	4424.6	4426.8	4432.4	4442.6	4455.0	4459.5	4453.3	4432.6
-19.5°	4294.1	4295.7	4297.3	4291.1	4285.0	4278.8	4268.6	4255.1	4236.4	4210.3	4175.0
-22.5°	4135.1	4135.3	4128.5	4114.9	4097.5	4069.0	4035.9	3996.7	3948.3	3891.7	3817.4
-25.5°	3945.0	3944.5	3934.6	3914.1	3881.9	3836.3	3781.0	3714.9	3636.4	3545.1	3426.6
-29°	3668.1	3666.1	3654.0	3626.5	3583.4	3521.0	3442.1	3348.1	3243.4	3136.1	3006.7
-33°	3262.9	3256.9	3235.3	3193.2	3131.5	3056.9	2976.3	2891.5	2797.9	2692.6	2549.6
-37.5°	2656.9	2654.8	2625.2	2579.6	2528.0	2468.0	2397.8	2312.9	2214.3	2110.9	1985.8
-42.5°	1839.6	1840.0	1829.6	1807.9	1769.7	1713.8	1654.8	1591.6	1519.0	1439.1	1323.2
-47.5°	1103.6	1101.0	1089.3	1073.4	1044.3	1008.3	958.8	903.5	849.7	792.0	718.4
-55°	283.5	283.7	278.4	269.9	256.4	245.6	237.6	233.3	231.3	231.4	232.9
-65°	39.5	39.4	39.9	40.5	41.5	42.3	42.2	42.2	41.3	39.7	37.6
-75°	10.6	10.2	11.1	11.7	12.3	12.1	11.4	10.2	9.5	8.3	7.1
-85°	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-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):

	22.5°	25.5°	29°	33°	37.5°	42.5°	47.5°	55°	65°	75°	85°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	4.1	3.5	1.3	2.5	3.4	1.1	0.7	2.7	1.8	0.0	0.0
65°	33.1	30.3	27.1	23.6	21.3	17.7	14.3	9.6	6.3	2.0	0.0
55°	226.3	222.3	211.9	188.4	135.1	119.4	98.4	33.3	11.1	5.3	0.0
47.5°	608.2	570.7	546.2	529.0	498.1	393.6	327.1	90.9	50.6	7.8	0.0
42.5°	1145.4	1026.6	913.9	842.4	799.2	696.5	557.2	276.6	85.3	9.2	0.0
37.5°	1782.2	1620.6	1444.6	1281.7	1157.3	1052.9	860.5	498.5	127.4	10.9	0.0
33°	2342.1	2163.2	1963.3	1756.2	1545.2	1416.3	1175.9	719.2	172.9	12.1	0.0
29°	2823.9	2642.2	2443.0	2217.3	1959.5	1739.6	1462.2	922.5	217.3	13.0	0.0
25.5°	3262.9	3098.9	2902.6	2666.3	2370.0	2045.8	1708.9	1094.5	257.8	13.9	0.0
22.5°	3679.3	3537.1	3346.1	3091.7	2735.3	2314.9	1909.3	1231.5	292.2	14.4	0.0
19.5°	4092.6	3986.8	3800.9	3503.6	3082.8	2571.4	2088.2	1356.1	326.4	15.1	0.0
17°	4378.9	4286.5	4091.3	3771.2	3328.1	2763.9	2216.4	1448.2	354.6	15.4	0.0
15°	4577.8	4466.8	4252.1	3931.6	3495.1	2899.2	2306.1	1514.6	376.2	15.9	0.0
13°	4768.1	4627.5	4384.5	4077.2	3637.3	3011.9	2384.7	1574.3	395.7	16.1	0.0
11°	4941.7	4781.5	4532.4	4229.4	3756.2	3107.7	2452.3	1626.5	413.0	16.2	0.0
9°	5065.0	4916.1	4691.5	4372.9	3847.0	3184.8	2513.7	1671.0	427.1	16.4	0.0
7°	5133.5	5030.9	4827.2	4471.8	3916.0	3249.0	2565.2	1708.3	438.1	16.5	0.0
5°	5189.1	5117.3	4913.7	4540.5	3981.9	3308.5	2612.0	1736.5	446.5	16.7	0.0
3°	5246.1	5166.4	4964.9	4600.0	4059.6	3359.8	2643.5	1755.6	450.9	17.0	0.0
1°	5313.8	5199.1	4996.6	4642.2	4116.1	3388.7	2659.6	1765.1	453.6	17.1	0.0
0°	5320.1	5208.7	5004.4	4648.6	4125.4	3392.4	2662.4	1766.5	454.2	17.0	0.0
-1°	5318.8	5216.3	5003.5	4644.3	4112.5	3389.1	2662.3	1764.7	454.1	17.0	0.0
-3°	5281.8	5207.8	4991.7	4605.4	4046.6	3360.5	2648.5	1755.3	452.3	16.9	0.0
-5°	5228.2	5161.2	4942.8	4540.3	3969.1	3311.9	2619.7	1737.3	448.9	16.9	0.0
-7°	5181.4	5076.2	4846.7	4471.1	3910.3	3257.4	2577.1	1709.3	442.9	16.8	0.0
-9°	5110.1	4958.5	4710.7	4382.8	3852.5	3199.1	2527.1	1674.9	433.4	16.5	0.0
-11°	4983.7	4813.2	4561.6	4257.7	3764.7	3129.5	2470.0	1633.2	421.5	16.2	0.0
-13°	4798.2	4659.1	4423.5	4116.5	3652.2	3040.7	2404.6	1584.3	406.1	15.9	0.0
-15°	4594.2	4492.3	4289.7	3980.6	3518.9	2926.9	2325.6	1527.9	388.6	15.6	0.0
-17°	4396.7	4312.2	4136.8	3821.1	3358.2	2789.3	2233.6	1462.6	368.1	15.4	0.0
-19.5°	4124.6	4028.1	3850.6	3539.9	3106.9	2589.1	2099.2	1372.6	340.2	15.1	0.0
-22.5°	3716.0	3589.8	3402.5	3124.2	2751.8	2324.2	1915.3	1249.6	306.5	14.5	0.0
-25.5°	3289.4	3143.4	2951.7	2702.1	2389.4	2046.3	1714.4	1113.8	272.0	13.7	0.0
-29°	2848.2	2681.1	2485.2	2251.2	1992.3	1735.5	1470.4	943.1	230.4	13.0	0.0
-33°	2373.2	2202.3	2003.9	1789.1	1590.4	1417.1	1191.9	742.3	183.8	12.1	0.0
-37.5°	1825.0	1659.4	1479.9	1320.1	1196.8	1075.1	890.1	519.8	136.9	10.9	0.0
-42.5°	1189.3	1065.1	939.7	873.8	827.6	729.2	590.8	295.6	92.4	9.6	0.0
-47.5°	641.9	592.2	564.5	553.7	523.3	427.4	354.8	105.5	55.4	7.9	0.0
-55°	236.6	237.6	233.0	211.7	154.4	138.5	108.4	39.3	11.6	5.5	0.0
-65°	35.1	32.2	28.9	24.9	23.0	18.5	15.3	11.1	6.3	2.1	0.0
-75°	5.8	5.4	3.5	4.0	4.4	1.5	1.2	3.3	1.8	0.0	0.0
-85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-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):

	90°
90°	0.0
85°	0.0
75°	0.0
65°	0.0
55°	0.0
47.5°	0.0
42.5°	0.0
37.5°	0.0
33°	0.0
29°	0.0
25.5°	0.0
22.5°	0.0
19.5°	0.0
17°	0.0
15°	0.0
13°	0.0
11°	0.0
9°	0.0
7°	0.0
5°	0.0
3°	0.0
1°	0.0
0°	0.0
-1°	0.0
-3°	0.0
-5°	0.0
-7°	0.0
-9°	0.0
-11°	0.0
-13°	0.0
-15°	0.0
-17°	0.0
-19.5°	0.0
-22.5°	0.0
-25.5°	0.0
-29°	0.0
-33°	0.0
-37.5°	0.0
-42.5°	0.0
-47.5°	0.0
-55°	0.0
-65°	0.0
-75°	0.0
-85°	0.0
-90°	0.0

(END OF REPORT)