

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: NEO-RAY

Report Number: P332906-840

Luminaire Tested: **SA4XXRDIP-C575D590U840-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332906-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXRDIP-C575D590U840-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

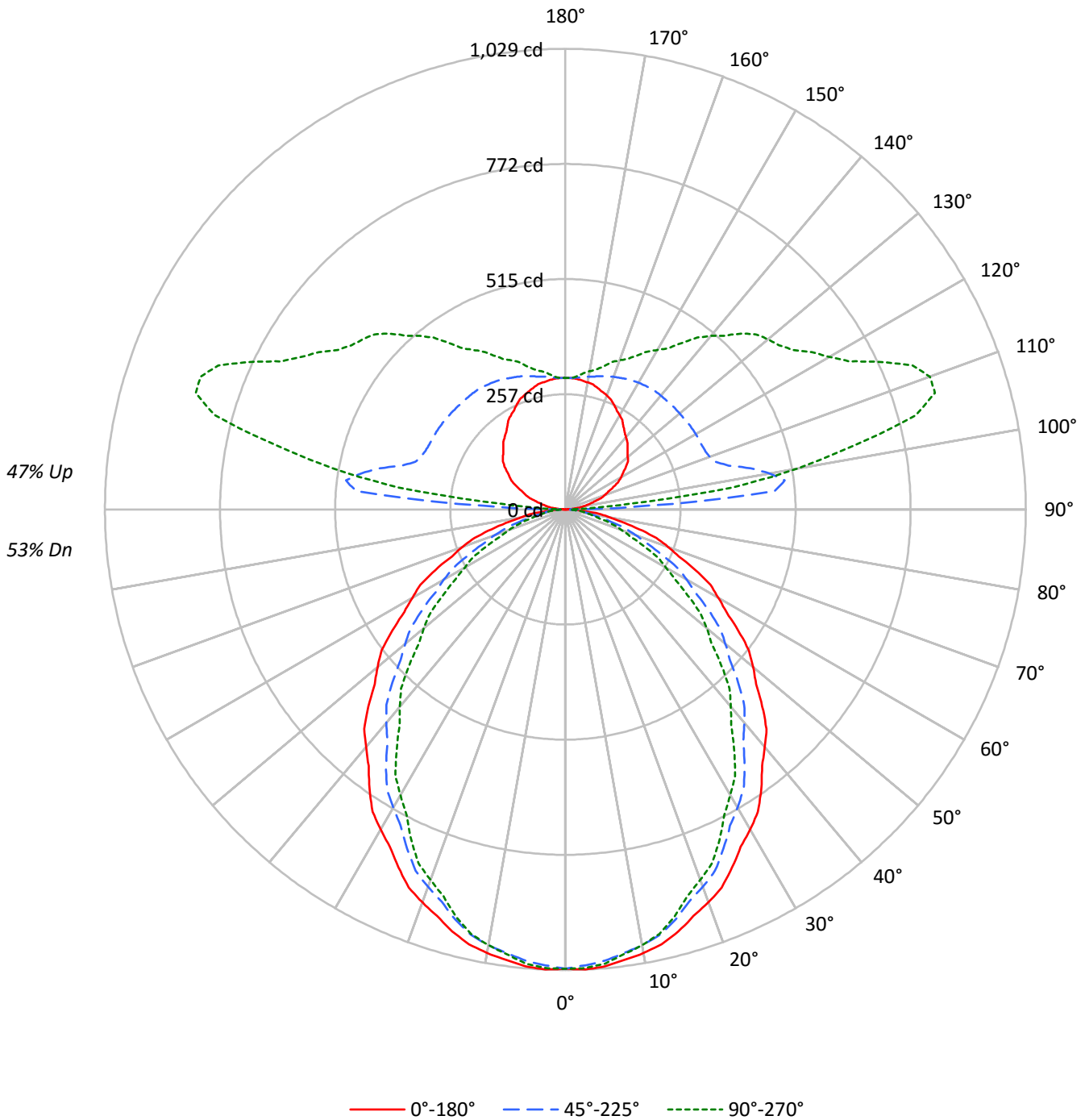
Lumens per Lamp: N/A  
Luminaire Lumens: 4505.4 lumens  
Efficiency: N/A  
Efficacy: 137.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 32.8  
Input Voltage (V): 120  
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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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	99	94	91	87	91	88	84	81	75	72	70	63	61	60	52	51	50	45
2	90	83	77	72	83	77	72	67	66	62	59	56	53	50	46	44	43	38
3	82	73	66	60	76	68	62	56	58	54	50	49	46	43	41	39	37	33
4	75	65	57	51	70	60	53	48	52	47	42	44	40	37	37	34	32	28
5	69	58	50	44	64	54	47	41	47	41	37	40	36	32	33	30	28	25
6	64	52	44	38	59	49	41	36	42	36	32	36	32	28	30	27	25	22
7	59	47	39	34	55	44	37	32	38	33	29	33	28	25	28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	23	26	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	24	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8285	8285	8285
5°	8304	8203	8253
10°	8252	8104	8104
15°	8157	7934	7875
20°	8027	7710	7568
25°	7861	7448	7259
30°	7699	7171	6871
35°	7521	6885	6482
40°	7304	6559	6062
45°	7106	6235	5634
50°	6880	5863	5181
55°	6636	5475	4690
60°	6370	5050	4187
65°	6124	4518	3692
70°	5769	3932	3135
75°	5321	3260	2548
80°	4640	2483	2338
85°	3927	2251	2112



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.4	2.1
10°-20°	268.8	6.0
20°-30°	388.2	8.6
30°-40°	440.0	9.8
40°-50°	424.9	9.4
50°-60°	353.4	7.8
60°-70°	244.0	5.4
70°-80°	123.7	2.7
80°-90°	33.3	0.7
90°-100°	211.8	4.7
100°-110°	440.8	9.8
110°-120°	394.8	8.8
120°-130°	332.1	7.4
130°-140°	276.9	6.1
140°-150°	211.5	4.7
150°-160°	148.7	3.3
160°-170°	87.5	1.9
170°-180°	28.5	0.6
0°-30°	753.5	16.7
0°-40°	1193.5	26.5
0°-60°	1971.8	43.8
0°-90°	2372.8	52.7
90°-120°	1047.4	23.2
90°-150°	1868.0	41.5
90°-180°	2133.0	47.3
0°-180°	4505.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1026	1026	1026	1026	1026	
5°	1025	1021	1012	1020	1018	97
15°	976	968	949	948	942	275
25°	882	867	836	823	815	406
35°	763	737	699	673	658	477
45°	622	592	546	509	494	480
55°	472	439	389	350	333	422
65°	321	286	236	204	193	317
75°	171	141	104	87	82	180
85°	42	28	24	23	23	48
90°	1	5	10	12	12	3
95°	19	60	470	232	141	21
105°	67	98	378	814	810	72
115°	119	149	337	648	778	118
125°	165	196	335	551	621	147
135°	196	234	332	489	555	152
145°	226	259	331	412	453	142
155°	258	278	321	364	380	119
165°	280	289	308	326	331	79
175°	293	293	296	300	298	28
180°	293	293	293	293	293	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3
2.5°	1028.9	1028.2	1027.7	1027.1	1026.6	1025.5	1024.0	1022.5	1020.9	1019.4	1020.9
5°	1024.7	1024.0	1023.3	1022.6	1022.0	1020.6	1018.4	1016.3	1014.2	1012.2	1013.9
7.5°	1015.4	1014.7	1014.0	1013.3	1012.5	1010.8	1008.0	1005.3	1002.6	999.9	1001.0
10°	1006.6	1005.8	1004.9	1004.0	1003.2	1001.2	998.0	994.8	991.7	988.6	989.3
12.5°	995.3	994.3	993.3	992.3	991.3	989.0	985.2	981.5	977.9	974.1	974.5
15°	976.0	974.4	972.9	971.3	969.7	966.7	962.4	958.1	953.6	949.3	949.0
17.5°	952.6	950.3	948.1	945.7	943.5	939.8	934.5	929.3	924.0	918.8	917.9
20°	934.3	932.1	929.8	927.6	925.2	921.2	915.2	909.3	903.3	897.5	896.1
22.5°	914.2	911.7	909.2	906.6	904.0	899.6	893.2	886.9	880.5	874.1	872.0
25°	882.5	879.4	876.2	873.0	869.9	864.7	857.6	850.4	843.2	836.2	833.1
27.5°	849.2	845.3	841.3	837.4	833.3	827.6	819.9	812.3	804.7	797.0	793.3
30°	825.9	821.5	817.2	812.8	808.5	802.1	794.0	785.8	777.5	769.3	765.0
32.5°	801.4	796.5	791.5	786.6	781.7	775.0	766.5	758.0	749.5	741.0	736.0
35°	763.1	757.5	751.8	746.3	740.7	733.6	724.8	716.1	707.3	698.6	692.7
37.5°	722.1	716.3	710.5	704.8	698.9	691.3	681.6	671.9	662.3	652.6	645.9
40°	693.1	687.3	681.6	675.8	670.0	662.2	652.3	642.3	632.4	622.4	615.0
42.5°	665.4	659.4	653.4	647.3	641.3	633.1	622.7	612.3	602.0	591.6	584.1
45°	622.4	615.9	609.5	603.0	596.5	588.0	577.5	567.1	556.6	546.1	537.6
47.5°	577.9	571.3	564.5	557.8	551.2	542.4	531.5	520.7	509.8	498.9	490.0
50°	547.8	540.9	534.1	527.3	520.5	511.5	500.3	489.2	478.0	466.8	458.1
52.5°	516.9	510.3	503.6	497.0	490.2	481.2	469.7	458.3	446.8	435.4	426.5
55°	471.5	464.5	457.6	450.5	443.5	434.3	423.0	411.7	400.3	389.0	379.9
57.5°	426.6	419.3	412.0	404.8	397.5	388.3	377.1	365.9	354.8	343.6	334.4
60°	394.5	387.5	380.5	373.5	366.6	357.5	346.3	335.1	324.0	312.8	303.7
62.5°	365.6	358.3	351.0	343.8	336.5	327.2	315.7	304.3	292.8	281.3	273.0
65°	320.6	313.2	305.6	298.1	290.5	281.2	270.0	258.9	247.7	236.5	229.0
67.5°	274.0	266.7	259.5	252.4	245.2	236.4	226.0	215.6	205.3	194.9	188.4
70°	244.4	237.0	229.7	222.4	215.1	206.4	196.4	186.5	176.5	166.6	160.9
72.5°	213.0	206.3	199.7	193.1	186.4	178.4	169.1	159.7	150.2	140.8	135.9
75°	170.6	164.1	157.6	151.2	144.7	137.3	129.2	120.9	112.7	104.5	100.5
77.5°	127.4	122.0	116.5	111.0	105.5	99.5	92.8	86.2	79.6	72.9	70.6
80°	99.8	94.7	89.7	84.6	79.6	74.4	69.2	63.9	58.7	53.4	52.9
82.5°	75.9	71.3	66.7	62.0	57.4	53.5	50.5	47.5	44.5	41.5	41.1
85°	42.4	39.0	35.4	31.9	28.5	26.5	26.0	25.4	24.8	24.3	24.0
87.5°	14.5	13.7	12.9	11.9	10.9	10.3	10.8	10.7	10.8	10.9	10.6
90°	0.6	1.7	3.4	4.0	4.6	4.6	8.1	8.1	9.2	10.4	9.8
92.5°	6.6	9.6	14.9	22.0	30.4	42.4	71.7	116.3	160.0	182.7	152.2
95°	19.0	20.7	26.5	34.0	47.8	72.0	122.1	216.6	354.3	469.5	482.7
97.5°	34.1	34.1	39.1	45.9	57.9	78.2	116.7	194.7	331.6	494.5	606.5
100°	43.8	43.8	47.8	54.7	65.6	84.1	118.1	183.2	300.7	463.1	610.7
102.5°	53.0	53.9	57.5	63.9	74.4	91.9	122.7	180.0	279.9	424.0	576.0
105°	67.4	69.2	72.0	79.0	89.3	106.0	133.6	181.5	262.2	377.9	513.3
107.5°	83.3	84.4	87.4	94.7	104.6	121.1	146.4	190.0	258.9	352.1	462.6
110°	93.9	95.0	98.0	104.8	115.2	130.8	156.1	196.4	259.8	343.4	437.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	104.0	105.2	108.6	115.0	125.3	140.9	165.3	203.4	262.6	339.2	422.9
115°	118.7	120.4	124.4	130.2	141.2	156.7	179.8	214.3	267.9	337.0	409.6
117.5°	133.9	135.5	139.1	145.4	155.6	171.8	193.7	225.5	273.5	336.4	403.6
120°	144.0	145.2	149.2	155.5	165.3	181.5	203.4	233.3	277.7	336.4	400.4
122.5°	153.2	154.4	158.4	164.3	175.0	190.7	212.6	240.7	281.9	336.0	396.7
125°	165.3	167.6	171.1	177.4	188.3	204.5	225.2	251.8	288.0	335.3	390.6
127.5°	176.0	177.9	182.1	189.2	200.7	216.9	237.0	261.4	293.0	334.0	382.4
130°	182.1	184.3	188.9	197.6	208.5	225.2	244.8	267.3	296.7	333.6	377.3
132.5°	188.0	189.9	195.9	204.1	215.9	231.7	251.3	273.3	299.9	333.1	372.7
135°	196.4	198.7	204.5	214.3	226.4	241.4	260.3	281.1	304.8	332.3	365.8
137.5°	204.9	207.0	213.4	222.7	235.3	249.5	267.3	286.7	307.6	332.2	359.8
140°	210.9	212.6	218.9	228.7	240.8	254.6	272.0	290.3	309.9	331.8	356.6
142.5°	217.3	219.0	224.9	234.2	245.9	259.2	276.1	293.1	311.7	331.8	353.9
145°	226.4	228.1	233.9	242.0	252.9	265.6	280.5	296.1	312.9	330.6	349.1
147.5°	236.6	237.2	242.3	250.5	259.7	271.1	285.2	298.7	313.4	328.6	344.9
150°	243.1	243.7	248.3	255.2	263.9	274.8	287.5	300.1	313.4	327.2	341.6
152.5°	249.1	249.2	253.8	260.2	268.0	278.0	289.3	301.0	312.5	324.9	337.9
155°	257.5	258.1	261.6	267.3	273.7	282.3	292.1	301.8	311.0	321.4	332.3
157.5°	265.7	265.7	268.9	273.4	278.9	285.7	294.1	301.8	309.6	317.9	326.8
160°	270.7	270.7	273.1	277.1	281.7	288.0	295.0	301.8	308.2	315.1	322.7
162.5°	275.4	274.9	276.7	280.3	284.5	289.4	295.9	301.8	306.8	312.4	318.9
165°	280.5	280.5	281.7	284.6	287.5	290.9	296.1	300.7	304.2	308.2	312.9
167.5°	285.7	285.2	285.7	287.9	289.5	292.2	296.0	299.3	301.4	304.1	307.3
170°	288.0	287.5	288.0	289.7	290.9	292.7	295.5	298.4	299.5	301.2	303.6
172.5°	290.3	289.7	289.8	291.1	291.9	293.1	295.1	297.5	297.7	298.5	300.3
175°	292.7	292.1	292.1	292.7	293.3	293.3	294.4	296.1	295.5	295.5	296.7
177.5°	293.7	293.3	292.8	293.3	293.3	293.3	293.7	294.6	293.7	293.7	294.2
180°	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3
2.5°	1022.5	1024.0	1025.5	1026.2	1026.1	1025.9	1025.8	1025.7
5°	1015.6	1017.4	1019.2	1019.9	1019.5	1019.2	1018.8	1018.4
7.5°	1002.1	1003.2	1004.4	1004.6	1004.1	1003.5	1003.0	1002.4
10°	990.0	990.7	991.4	991.4	990.7	990.0	989.3	988.6
12.5°	974.9	975.3	975.8	975.5	974.5	973.6	972.6	971.6
15°	948.6	948.3	947.9	947.2	945.8	944.6	943.4	942.2
17.5°	916.9	915.8	914.8	913.4	911.6	909.8	907.9	906.1
20°	894.6	893.2	891.8	890.0	887.8	885.4	883.2	880.9
22.5°	870.0	867.9	865.8	863.8	861.9	860.1	858.3	856.4
25°	830.2	827.2	824.3	821.9	820.1	818.4	816.7	814.9
27.5°	789.6	786.0	782.3	779.2	776.7	774.2	771.7	769.2
30°	760.6	756.2	751.8	748.3	745.5	742.7	739.9	737.1
32.5°	730.9	725.9	720.7	716.9	714.3	711.7	708.9	706.3
35°	686.7	680.8	674.9	670.3	667.2	664.0	660.9	657.7
37.5°	639.2	632.7	626.0	621.2	617.9	614.8	611.7	608.5
40°	607.7	600.4	593.0	587.8	584.6	581.5	578.3	575.2
42.5°	576.6	569.2	561.7	556.3	553.0	549.8	546.4	543.2
45°	529.1	520.5	511.9	506.0	502.9	499.8	496.7	493.5
47.5°	481.1	472.2	463.3	457.2	453.7	450.3	446.9	443.3
50°	449.3	440.6	431.8	425.9	422.5	419.2	415.9	412.5
52.5°	417.6	408.7	399.9	393.7	390.2	386.8	383.3	379.9
55°	370.8	361.7	352.6	346.5	343.2	339.8	336.5	333.2
57.5°	325.1	315.9	306.7	300.8	298.3	295.8	293.3	290.7
60°	294.6	285.5	276.4	270.5	267.7	264.9	262.2	259.3
62.5°	264.6	256.2	247.8	242.5	240.2	238.0	235.8	233.6
65°	221.6	214.0	206.5	201.7	199.7	197.5	195.4	193.3
67.5°	182.0	175.5	169.1	164.7	162.4	160.1	157.7	155.4
70°	155.1	149.4	143.5	139.8	138.0	136.3	134.5	132.8
72.5°	131.0	126.0	121.1	117.9	116.2	114.6	113.0	111.4
75°	96.4	92.5	88.5	85.9	84.8	83.8	82.8	81.7
77.5°	68.3	65.9	63.5	62.2	61.9	61.6	61.3	61.0
80°	52.4	51.9	51.3	51.0	50.8	50.6	50.5	50.3
82.5°	40.7	40.3	40.0	39.7	39.5	39.3	39.2	39.0
85°	23.6	23.3	22.9	22.8	22.8	22.8	22.8	22.8
87.5°	10.6	10.6	10.5	10.5	10.8	11.0	11.1	11.2
90°	10.4	10.9	11.5	11.5	12.1	12.6	12.1	12.1
92.5°	113.1	85.1	67.8	56.2	49.4	46.4	44.3	44.3
95°	426.9	337.6	260.3	204.5	176.3	158.4	148.0	140.6
97.5°	630.7	597.5	541.2	481.0	439.7	405.0	387.7	375.7
100°	694.8	706.3	678.0	635.4	585.3	550.2	532.9	528.3
102.5°	691.6	748.7	756.9	739.1	708.3	682.9	664.7	661.0
105°	645.2	744.9	801.9	825.6	826.7	822.0	814.0	810.5
107.5°	579.5	685.5	765.9	817.2	845.7	858.8	864.5	866.1
110°	539.8	639.4	723.0	786.4	827.3	851.4	861.8	867.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	510.8	598.8	677.8	741.1	787.6	816.9	831.4	839.8
115°	481.6	552.5	619.9	675.2	720.6	755.3	773.7	778.3
117.5°	467.3	525.9	579.0	625.8	664.7	693.7	712.4	716.0
120°	460.9	514.4	560.5	601.4	634.3	659.6	674.6	681.0
122.5°	455.3	507.1	549.0	584.8	612.6	634.3	646.9	653.3
125°	445.9	495.4	535.1	566.8	589.9	606.6	617.5	621.0
127.5°	434.3	481.7	521.4	551.4	574.6	589.5	598.6	602.1
130°	425.2	470.7	509.8	540.4	564.0	578.3	587.6	591.1
132.5°	415.5	458.2	496.4	526.9	550.2	566.4	575.1	578.7
135°	402.1	439.6	474.6	503.5	526.5	542.7	551.9	555.3
137.5°	390.0	421.7	451.3	477.4	498.9	514.8	522.4	526.5
140°	383.0	410.2	436.1	460.3	480.5	493.1	501.2	505.8
142.5°	376.7	400.5	422.7	443.7	461.5	473.3	480.5	483.6
145°	367.5	387.1	404.5	420.5	434.9	444.7	450.5	453.3
147.5°	360.0	375.6	389.4	402.1	412.7	421.1	425.5	426.6
150°	355.5	368.7	380.2	390.6	399.8	407.3	410.7	411.3
152.5°	350.3	361.7	372.3	380.9	388.7	394.9	396.9	397.5
155°	342.7	351.9	360.6	367.5	373.3	377.9	379.6	379.6
157.5°	334.6	342.3	349.5	355.1	359.5	362.9	364.0	364.0
160°	329.5	335.9	342.1	346.8	350.2	353.8	354.3	354.3
162.5°	324.5	329.8	334.8	339.0	341.5	345.0	345.6	345.1
165°	317.4	320.8	324.9	327.8	330.1	332.3	331.8	331.2
167.5°	310.6	313.3	316.5	318.2	319.4	320.8	320.7	320.3
170°	306.5	308.2	310.5	312.3	313.4	314.0	313.4	313.4
172.5°	302.8	304.1	305.5	306.7	307.4	308.0	307.4	306.5
175°	297.8	298.4	299.5	299.5	299.5	300.7	299.5	298.4
177.5°	294.6	295.1	295.1	295.5	295.1	295.5	294.6	293.7
180°	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3

(END OF REPORT)