

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: P331684-840

Luminaire Tested: **SA2XXRDIP-C675D530U840-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331684-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C675D530U840-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 530 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4479.2 lumens  
Efficiency: N/A  
Efficacy: 111.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

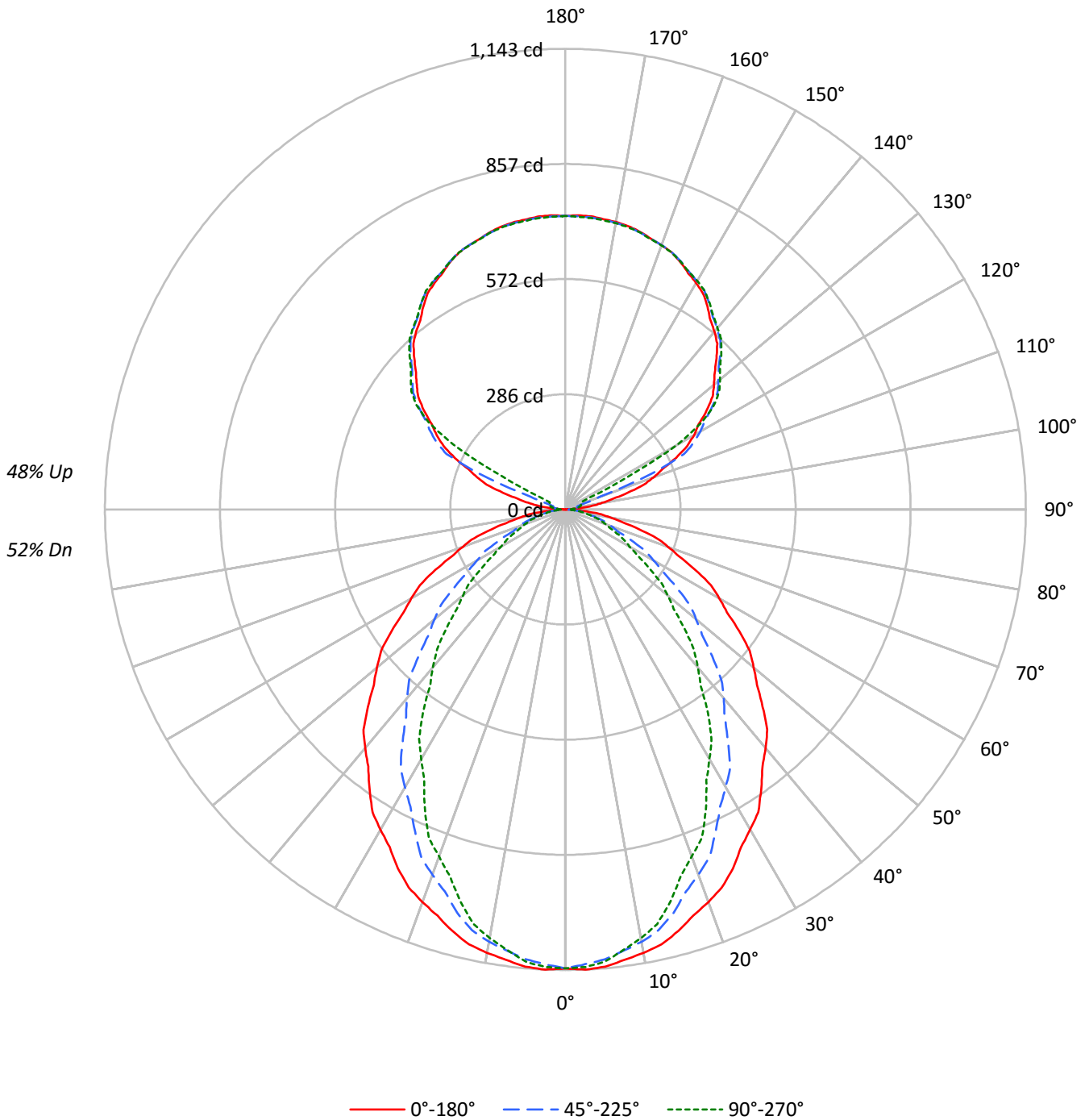
Input Watts (W): 40.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	58	58	58	52
1	99	95	91	88	91	88	85	82	75	73	71	63	62	60	52	51	50	45
2	90	83	77	72	83	77	72	68	66	62	59	56	53	51	47	45	43	39
3	83	74	67	61	76	69	62	57	59	54	50	50	47	44	42	39	37	33
4	76	65	58	52	70	61	54	49	53	47	43	45	41	38	38	35	32	29
5	70	59	51	45	65	55	48	42	47	42	38	41	36	33	34	31	29	26
6	65	53	45	39	60	49	42	37	43	37	33	37	33	29	31	28	25	23
7	60	48	40	35	55	45	38	33	39	34	29	34	29	26	29	25	23	20
8	56	44	36	31	52	41	34	29	36	30	26	31	27	23	26	23	21	18
9	52	40	33	28	48	37	31	26	33	28	24	29	24	21	24	21	19	17
10	49	37	30	25	45	35	28	24	30	25	22	26	22	19	23	19	17	15

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

	0°	45°	90°
0°	18392	18392	18392
5°	18462	18162	18263
10°	18321	17864	17713
15°	18111	17336	16836
20°	17819	16579	15747
25°	17521	15720	14694
30°	17107	14838	13340
35°	16703	13878	12151
40°	16297	12886	10777
45°	15819	11768	9533
50°	15330	10643	8312
55°	14829	9433	7139
60°	14247	8157	5926
65°	13589	6854	5398
70°	12798	5646	4961
75°	11834	5147	4629
80°	10451	4603	4212
85°	8207	3631	3631



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.6	2.4
10°-20°	292.8	6.5
20°-30°	411.1	9.2
30°-40°	448.3	10.0
40°-50°	412.2	9.2
50°-60°	323.8	7.2
60°-70°	211.1	4.7
70°-80°	108.8	2.4
80°-90°	30.0	0.7
90°-100°	24.3	0.5
100°-110°	89.1	2.0
110°-120°	238.2	5.3
120°-130°	393.1	8.8
130°-140°	418.1	9.3
140°-150°	388.6	8.7
150°-160°	312.4	7.0
160°-170°	201.3	4.5
170°-180°	69.3	1.5
0°-30°	810.5	18.1
0°-40°	1258.9	28.1
0°-60°	1994.8	44.5
0°-90°	2344.8	52.3
90°-120°	351.5	7.8
90°-150°	1551.4	34.6
90°-180°	2134.0	47.6
0°-180°	4479.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1139	1139	1139	1139	1139	
5°	1139	1134	1121	1129	1127	108
15°	1084	1071	1037	1018	1007	305
25°	984	949	882	842	825	452
35°	847	793	704	642	616	530
45°	693	622	515	445	418	535
55°	527	445	335	276	254	471
65°	356	272	179	146	141	352
75°	190	120	82	76	74	201
85°	44	24	20	20	20	52
90°	0	6	10	13	14	3
95°	34	18	21	23	23	42
105°	160	167	32	38	40	171
115°	303	312	325	93	43	298
125°	428	436	445	449	451	382
135°	530	538	543	548	548	409
145°	615	615	624	627	624	385
155°	677	673	679	682	678	312
165°	714	711	712	715	712	202
175°	730	726	727	730	726	69
180°	728	728	728	728	728	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1
2.5°	1143.3	1142.4	1141.5	1140.5	1139.6	1138.1	1136.1	1134.1	1132.2	1130.1	1132.0
5°	1139.1	1138.0	1136.9	1135.7	1134.6	1132.6	1129.5	1126.6	1123.6	1120.6	1122.7
7.5°	1127.4	1126.0	1124.6	1123.2	1121.8	1119.2	1115.8	1112.4	1108.8	1105.4	1105.9
10°	1117.5	1115.9	1114.3	1112.7	1111.1	1108.0	1103.4	1098.8	1094.3	1089.6	1089.0
12.5°	1105.1	1103.2	1101.2	1099.2	1097.2	1093.4	1087.5	1081.7	1075.7	1069.9	1068.6
15°	1083.5	1081.0	1078.4	1075.9	1073.4	1068.2	1060.5	1052.7	1044.9	1037.1	1032.8
17.5°	1056.9	1053.1	1049.2	1045.3	1041.5	1034.6	1024.6	1014.6	1004.6	994.6	989.5
20°	1037.1	1032.5	1027.9	1023.4	1018.8	1010.8	999.3	987.8	976.4	964.9	959.2
22.5°	1015.6	1010.6	1005.4	1000.3	995.1	986.1	973.2	960.3	947.4	934.4	927.1
25°	983.5	976.1	968.9	961.5	954.2	942.9	927.9	912.7	897.6	882.4	873.0
27.5°	944.7	936.8	928.8	920.8	912.8	900.3	883.3	866.3	849.2	832.1	821.2
30°	917.6	908.8	900.1	891.4	882.7	869.2	850.8	832.5	814.2	795.9	784.2
32.5°	891.1	880.9	870.8	860.6	850.4	836.0	817.3	798.6	779.9	761.2	747.9
35°	847.4	835.8	824.0	812.3	800.7	784.8	764.6	744.5	724.3	704.1	689.6
37.5°	803.8	790.8	778.0	765.2	752.3	735.2	713.8	692.3	670.8	649.2	633.4
40°	773.2	759.4	745.7	732.0	718.2	700.2	678.0	655.8	633.6	611.4	595.1
42.5°	741.8	727.4	712.9	698.4	684.0	665.2	642.3	619.4	596.3	573.4	556.5
45°	692.8	677.4	662.1	646.7	631.4	611.7	587.6	563.6	539.5	515.4	499.2
47.5°	644.9	628.6	612.4	596.1	579.9	559.4	534.5	509.7	484.8	460.0	443.8
50°	610.3	594.0	577.7	561.5	545.2	524.5	499.3	474.1	448.9	423.7	407.9
52.5°	576.5	559.5	542.5	525.5	508.5	487.7	463.0	438.4	413.7	389.1	373.9
55°	526.8	509.0	491.1	473.2	455.3	434.0	409.3	384.6	359.8	335.1	321.3
57.5°	475.8	457.6	439.2	420.9	402.5	381.5	357.7	334.0	310.1	286.4	273.8
60°	441.2	422.9	404.6	386.3	367.9	347.0	323.4	299.7	276.2	252.6	240.9
62.5°	407.4	389.1	370.7	352.4	334.1	313.7	291.2	268.7	246.2	223.7	212.6
65°	355.7	337.1	318.5	300.0	281.4	261.9	241.3	220.7	200.0	179.4	171.6
67.5°	305.8	287.3	268.9	250.5	232.1	213.6	195.0	176.5	157.9	139.4	135.8
70°	271.1	253.3	235.4	217.5	199.7	182.8	167.0	151.2	135.4	119.6	117.2
72.5°	238.1	221.0	203.9	186.7	169.6	154.7	142.0	129.3	116.6	103.9	102.0
75°	189.7	173.7	157.6	141.6	125.5	113.6	105.8	98.1	90.3	82.5	80.9
77.5°	142.1	127.9	113.9	99.9	85.8	76.9	73.1	69.4	65.6	61.9	60.9
80°	112.4	100.7	89.0	77.4	65.6	58.7	56.4	54.0	51.8	49.5	48.6
82.5°	85.1	76.0	67.0	57.8	48.7	43.3	41.8	40.2	38.7	37.2	36.6
85°	44.3	39.5	34.7	29.9	25.0	22.3	21.6	21.0	20.3	19.6	19.6
87.5°	13.3	12.1	10.9	9.7	8.5	8.0	8.2	8.3	8.5	8.7	8.7
90°	0.5	1.8	3.1	4.3	5.7	6.8	7.8	8.7	9.6	10.5	11.1
92.5°	10.6	10.5	10.4	10.3	10.2	10.4	10.8	11.3	11.7	12.2	12.5
95°	34.2	30.4	26.6	22.6	18.8	17.3	18.1	18.9	19.7	20.6	21.1
97.5°	68.0	57.1	46.3	35.3	24.4	19.9	21.8	23.7	25.7	27.5	28.0
100°	93.3	77.3	61.2	45.1	29.1	22.1	24.0	26.1	28.1	30.0	31.0
102.5°	121.1	117.8	114.3	110.9	107.6	97.5	80.9	64.2	47.6	30.9	32.1
105°	160.2	163.7	167.2	170.8	174.3	160.1	128.1	96.1	64.1	32.1	33.4
107.5°	204.8	207.6	210.5	213.3	216.1	198.3	160.1	121.7	83.3	45.0	43.7
110°	233.5	235.9	238.4	240.9	243.3	227.6	193.8	160.0	126.0	92.2	80.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	260.4	262.7	264.8	267.0	269.1	266.1	257.7	249.3	241.0	232.7	189.9
115°	303.1	305.0	307.0	309.0	311.0	313.5	316.4	319.3	322.2	325.2	270.9
117.5°	341.1	343.4	345.6	347.8	350.0	352.1	354.2	356.2	358.2	360.1	347.1
120°	368.9	370.6	372.4	374.2	376.0	377.9	380.0	382.1	384.2	386.3	387.7
122.5°	392.5	394.4	396.3	398.1	399.9	402.0	404.2	406.6	408.9	411.2	412.0
125°	428.5	430.0	431.5	433.0	434.5	436.5	438.7	440.9	443.1	445.4	446.2
127.5°	461.0	462.7	464.4	466.1	467.8	469.5	471.1	472.8	474.4	476.2	477.3
130°	481.7	483.5	485.4	487.4	489.2	490.8	492.1	493.3	494.6	495.9	497.3
132.5°	502.8	504.3	505.9	507.6	509.2	510.6	511.9	513.2	514.4	515.7	516.8
135°	530.2	532.1	533.9	535.8	537.7	539.2	540.2	541.3	542.3	543.3	544.5
137.5°	558.0	559.2	560.5	561.8	563.1	564.4	565.6	566.8	567.9	569.2	570.4
140°	576.0	576.9	577.9	578.9	579.8	580.9	582.2	583.5	584.7	586.0	587.1
142.5°	591.2	592.1	592.9	593.7	594.6	595.7	597.2	598.6	600.2	601.7	602.6
145°	615.0	614.9	614.8	614.7	614.6	615.5	617.5	619.5	621.5	623.5	624.3
147.5°	635.8	635.3	634.9	634.5	634.0	634.8	636.7	638.7	640.7	642.7	643.3
150°	649.2	648.4	647.6	646.8	646.0	646.5	648.4	650.3	652.2	654.0	654.7
152.5°	660.7	659.7	658.8	657.9	657.0	657.4	659.2	661.1	662.8	664.6	665.3
155°	677.2	676.2	675.1	674.1	673.0	673.2	674.6	676.0	677.4	678.8	679.5
157.5°	690.1	689.3	688.4	687.5	686.6	686.7	687.6	688.6	689.6	690.6	691.4
160°	697.8	697.1	696.4	695.7	695.0	695.0	695.7	696.4	697.1	697.8	698.5
162.5°	704.5	703.8	703.1	702.4	701.8	701.7	702.3	702.9	703.5	704.1	704.9
165°	713.6	712.9	712.2	711.4	710.7	710.6	710.9	711.2	711.7	712.0	712.9
167.5°	720.3	719.6	718.9	718.2	717.5	717.3	717.6	718.0	718.3	718.6	719.4
170°	724.1	723.5	722.8	722.1	721.3	721.0	721.3	721.5	721.8	722.1	722.9
172.5°	726.7	726.0	725.3	724.6	723.9	723.6	723.9	724.1	724.3	724.6	725.4
175°	729.9	729.1	728.3	727.5	726.6	726.4	726.6	726.8	727.0	727.3	728.1
177.5°	730.4	729.8	729.1	728.5	727.8	727.5	727.6	727.7	727.8	727.9	728.6
180°	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1
2.5°	1133.8	1135.6	1137.4	1138.1	1137.8	1137.4	1137.1	1136.7
5°	1124.7	1126.8	1128.8	1129.5	1128.8	1128.1	1127.5	1126.8
7.5°	1106.5	1107.1	1107.7	1107.4	1106.2	1105.1	1103.9	1102.7
10°	1088.3	1087.6	1086.9	1085.9	1084.5	1083.2	1081.8	1080.4
12.5°	1067.4	1066.2	1064.9	1063.2	1060.9	1058.6	1056.3	1054.0
15°	1028.4	1024.0	1019.7	1016.3	1014.1	1011.8	1009.5	1007.2
17.5°	984.3	979.1	973.9	969.4	965.4	961.5	957.6	953.6
20°	953.5	947.8	942.0	936.6	931.6	926.6	921.5	916.5
22.5°	919.7	912.3	904.9	899.4	895.5	891.8	888.1	884.3
25°	863.6	854.2	844.9	838.5	835.1	831.6	828.2	824.8
27.5°	810.2	799.3	788.4	780.1	774.7	769.2	763.8	758.3
30°	772.5	760.8	749.1	740.2	734.0	727.8	721.6	715.5
32.5°	734.6	721.2	707.9	698.3	692.5	686.7	680.9	675.1
35°	675.3	660.9	646.4	636.6	631.6	626.5	621.6	616.5
37.5°	617.4	601.6	585.7	574.8	569.1	563.3	557.5	551.8
40°	578.8	562.5	546.2	535.1	529.2	523.2	517.3	511.3
42.5°	539.8	522.9	506.1	494.8	489.1	483.3	477.6	471.7
45°	482.9	466.7	450.4	439.5	434.0	428.5	423.0	417.5
47.5°	427.7	411.5	395.3	384.8	379.7	374.8	369.7	364.8
50°	392.1	376.3	360.5	350.1	345.4	340.5	335.8	330.9
52.5°	358.6	343.3	328.0	318.2	313.8	309.3	304.9	300.4
55°	307.6	293.8	280.0	271.0	266.7	262.3	257.9	253.6
57.5°	261.2	248.6	236.0	227.8	224.2	220.6	216.8	213.2
60°	229.2	217.5	205.8	198.1	194.5	190.9	187.1	183.5
62.5°	201.5	190.3	179.2	172.5	170.3	168.1	165.9	163.7
65°	163.8	156.0	148.2	144.0	143.3	142.6	141.9	141.3
67.5°	132.2	128.7	125.1	122.9	122.2	121.5	120.8	120.0
70°	115.0	112.7	110.4	108.9	107.9	106.9	106.0	105.1
72.5°	100.1	98.2	96.2	95.0	94.4	93.9	93.3	92.8
75°	79.3	77.7	76.0	75.1	74.9	74.7	74.4	74.2
77.5°	60.0	59.1	58.2	57.6	57.2	56.9	56.5	56.0
80°	47.7	46.8	45.8	45.3	45.3	45.3	45.3	45.3
82.5°	36.1	35.4	34.9	34.6	34.6	34.6	34.6	34.6
85°	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
87.5°	8.6	8.5	8.5	8.4	8.5	8.5	8.6	8.6
90°	11.7	12.3	12.9	13.3	13.5	13.7	14.0	14.2
92.5°	12.8	13.1	13.4	13.6	13.8	13.9	14.1	14.2
95°	21.7	22.3	22.9	23.1	23.0	22.9	22.8	22.6
97.5°	28.5	28.9	29.4	29.7	29.8	30.0	30.1	30.3
100°	31.9	32.8	33.8	34.3	34.6	34.8	35.0	35.3
102.5°	33.3	34.5	35.7	36.6	36.9	37.2	37.5	37.9
105°	34.7	36.1	37.3	38.2	38.7	39.1	39.6	40.1
107.5°	42.4	41.1	39.8	39.4	39.8	40.3	40.7	41.2
110°	68.8	57.1	45.3	39.8	40.2	40.7	41.2	41.6





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CATALOG NUMBER: SA2XXRDIP-C675D530U840-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	147.1	104.4	61.7	40.6	40.9	41.3	41.7	42.0
115°	216.7	162.5	108.3	77.0	68.5	60.1	51.6	43.2
117.5°	334.0	320.8	307.7	287.3	259.5	231.9	204.2	176.4
120°	389.1	390.5	391.9	384.8	368.9	353.1	337.3	321.4
122.5°	412.8	413.7	414.5	413.4	410.4	407.3	404.2	401.1
125°	447.0	447.8	448.6	449.2	449.6	449.9	450.3	450.6
127.5°	478.5	479.7	480.9	481.5	481.6	481.7	481.7	481.8
130°	498.5	499.8	501.1	501.7	501.5	501.4	501.3	501.2
132.5°	518.0	519.1	520.2	520.6	520.5	520.4	520.3	520.2
135°	545.7	546.8	548.1	548.6	548.3	548.1	547.9	547.5
137.5°	571.5	572.6	573.8	574.1	573.7	573.3	573.0	572.6
140°	588.1	589.2	590.3	590.5	589.9	589.4	588.8	588.1
142.5°	603.6	604.5	605.5	605.7	605.1	604.5	603.9	603.3
145°	625.1	625.9	626.7	626.8	626.3	625.7	625.1	624.5
147.5°	643.9	644.5	645.1	645.1	644.7	644.2	643.7	643.2
150°	655.4	656.1	656.8	656.9	656.3	655.7	655.1	654.6
152.5°	666.0	666.7	667.4	667.3	666.6	665.8	665.0	664.3
155°	680.2	681.0	681.7	681.5	680.5	679.6	678.7	677.7
157.5°	692.2	693.0	693.8	693.8	692.8	691.9	690.9	690.0
160°	699.1	699.8	700.5	700.5	699.7	698.9	698.0	697.2
162.5°	705.7	706.5	707.3	707.2	706.2	705.2	704.2	703.2
165°	713.7	714.5	715.3	715.3	714.5	713.7	712.9	712.0
167.5°	720.2	721.1	722.0	721.9	720.7	719.7	718.6	717.6
170°	723.7	724.5	725.3	725.2	724.1	723.1	722.1	720.9
172.5°	726.2	727.0	727.8	727.7	726.7	725.6	724.6	723.5
175°	728.9	729.7	730.5	730.4	729.2	728.0	726.9	725.7
177.5°	729.2	729.9	730.5	730.4	729.6	728.7	727.9	727.1
180°	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3

(END OF REPORT)