

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: P331686

Luminaire Tested: **SA2XXRDIP-C675D530U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331686  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C675D530U835-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

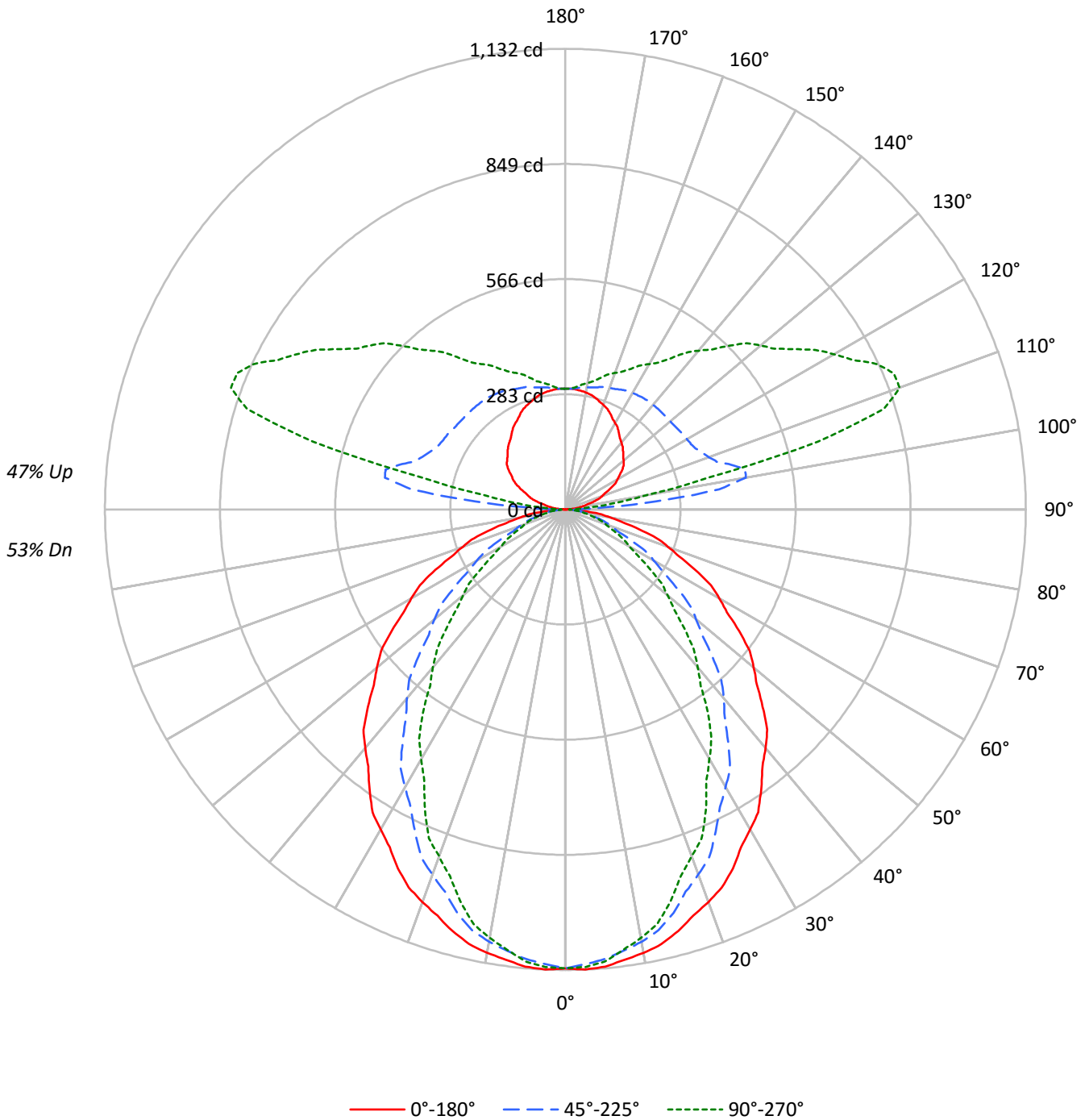
Lumens per Lamp: N/A  
Luminaire Lumens: 4386.3 lumens  
Efficiency: N/A  
Efficacy: 108.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

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	50	30	10	0	
RCR																						
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53				53
1	99	95	91	88	92	88	85	82	75	73	71	64	62	60	53	52	51	46				46
2	91	83	77	72	84	78	72	68	67	63	59	56	54	51	47	45	43	39				39
3	83	74	67	61	77	69	62	57	59	54	51	50	47	44	42	40	38	34				34
4	76	66	58	52	70	61	54	49	53	48	44	45	41	38	38	35	33	29				29
5	70	59	51	45	65	55	48	43	48	42	38	41	37	33	34	31	29	26				26
6	65	53	45	39	60	50	42	37	43	38	33	37	33	30	31	28	26	23				23
7	60	48	40	35	56	45	38	33	39	34	30	34	30	26	29	26	23	21				21
8	56	44	36	31	52	41	34	29	36	30	26	31	27	24	27	23	21	19				19
9	52	40	33	28	48	38	31	26	33	28	24	29	24	21	25	21	19	17				17
10	49	37	30	25	45	35	28	24	31	25	22	27	22	19	23	20	17	15				15

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

	0°	45°	90°
0°	18213	18213	18213
5°	18282	17985	18084
10°	18143	17690	17539
15°	17934	17167	16672
20°	17646	16417	15593
25°	17350	15567	14549
30°	16940	14693	13209
35°	16539	13742	12033
40°	16136	12760	10671
45°	15664	11654	9439
50°	15179	10540	8231
55°	14686	9340	7068
60°	14108	8076	5867
65°	13456	6785	5345
70°	12675	5589	4914
75°	11715	5097	4585
80°	10349	4556	4175
85°	8133	3594	3594



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.6	2.4
10°-20°	289.9	6.6
20°-30°	407.1	9.3
30°-40°	443.9	10.1
40°-50°	408.2	9.3
50°-60°	320.6	7.3
60°-70°	209.0	4.8
70°-80°	107.8	2.5
80°-90°	30.6	0.7
90°-100°	118.6	2.7
100°-110°	402.4	9.2
110°-120°	427.5	9.7
120°-130°	351.9	8.0
130°-140°	282.6	6.4
140°-150°	213.5	4.9
150°-160°	150.1	3.4
160°-170°	88.3	2.0
170°-180°	28.8	0.7
0°-30°	802.6	18.3
0°-40°	1246.6	28.4
0°-60°	1975.3	45.0
0°-90°	2322.8	53.0
90°-120°	948.4	21.6
90°-150°	1796.4	41.0
90°-180°	2064.0	47.1
0°-180°	4386.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1128	1128	1128	1128	1128	
5°	1128	1122	1110	1118	1116	107
15°	1073	1060	1027	1008	997	302
25°	974	939	874	833	817	448
35°	839	785	697	635	610	525
45°	686	615	510	441	413	529
55°	522	440	332	273	251	466
65°	352	269	178	145	140	349
75°	188	118	82	75	74	199
85°	44	23	19	19	19	52
90°	1	8	19	18	19	3
95°	20	49	224	84	65	21
105°	70	105	423	755	643	74
115°	123	155	354	730	846	122
125°	171	202	340	591	686	152
135°	201	240	336	497	569	155
145°	229	263	334	415	454	144
155°	261	281	324	367	382	120
165°	284	293	311	330	335	80
175°	296	296	299	303	302	28
180°	296	296	296	296	296	



TEST NUMBER: P331686

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0
2.5°	1132.1	1131.2	1130.3	1129.4	1128.5	1127.0	1125.0	1123.0	1121.1	1119.1	1120.9
5°	1128.0	1126.9	1125.8	1124.6	1123.5	1121.5	1118.5	1115.6	1112.6	1109.7	1111.7
7.5°	1116.4	1115.0	1113.6	1112.2	1110.8	1108.3	1104.9	1101.5	1098.0	1094.6	1095.1
10°	1106.6	1105.0	1103.4	1101.8	1100.2	1097.2	1092.6	1088.1	1083.6	1079.0	1078.4
12.5°	1094.3	1092.4	1090.4	1088.5	1086.5	1082.7	1076.9	1071.1	1065.2	1059.4	1058.2
15°	1072.9	1070.4	1067.9	1065.4	1062.9	1057.8	1050.1	1042.4	1034.7	1027.0	1022.7
17.5°	1046.6	1042.8	1039.0	1035.1	1031.3	1024.5	1014.6	1004.7	994.8	984.9	979.8
20°	1027.0	1022.4	1017.9	1013.4	1008.8	1000.9	989.5	978.2	966.9	955.5	949.8
22.5°	1005.7	1000.7	995.6	990.5	985.4	976.5	963.7	950.9	938.1	925.3	918.0
25°	973.9	966.6	959.4	952.1	944.9	933.7	918.8	903.8	888.8	873.8	864.5
27.5°	935.5	927.6	919.7	911.8	903.9	891.5	874.7	857.8	840.9	824.0	813.2
30°	908.6	899.9	891.3	882.7	874.1	860.7	842.5	824.4	806.2	788.1	776.5
32.5°	882.4	872.3	862.3	852.2	842.1	827.8	809.3	790.8	772.3	753.8	740.6
35°	839.1	827.6	816.0	804.4	792.9	777.1	757.1	737.2	717.2	697.2	682.9
37.5°	795.9	783.1	770.4	757.7	745.0	728.0	706.8	685.5	664.2	642.9	627.2
40°	765.6	752.0	738.4	724.8	711.2	693.4	671.4	649.4	627.4	605.4	589.3
42.5°	734.6	720.3	705.9	691.6	677.3	658.7	636.0	613.3	590.5	567.8	551.1
45°	686.0	670.8	655.6	640.4	625.2	605.7	581.9	558.1	534.2	510.4	494.3
47.5°	638.6	622.5	606.4	590.3	574.2	553.9	529.3	504.7	480.1	455.5	439.5
50°	604.3	588.2	572.1	556.0	539.9	519.4	494.4	469.5	444.5	419.6	403.9
52.5°	570.9	554.0	537.2	520.4	503.5	482.9	458.5	434.1	409.7	385.3	370.2
55°	521.7	504.0	486.3	468.6	450.9	429.8	405.3	380.8	356.3	331.8	318.2
57.5°	471.2	453.1	434.9	416.8	398.6	377.8	354.2	330.7	307.1	283.6	271.1
60°	436.9	418.8	400.6	382.5	364.3	343.6	320.2	296.8	273.5	250.1	238.5
62.5°	403.4	385.3	367.1	349.0	330.8	310.6	288.4	266.1	243.8	221.5	210.5
65°	352.2	333.8	315.4	297.1	278.7	259.3	238.9	218.5	198.0	177.6	169.9
67.5°	302.8	284.5	266.3	248.1	229.8	211.5	193.1	174.8	156.4	138.0	134.5
70°	268.5	250.8	233.1	215.4	197.7	181.0	165.4	149.7	134.1	118.4	116.1
72.5°	235.8	218.8	201.9	184.9	167.9	153.2	140.6	128.0	115.5	102.9	101.0
75°	187.8	172.0	156.1	140.2	124.3	112.5	104.8	97.1	89.4	81.7	80.1
77.5°	140.7	126.7	112.8	98.9	85.0	76.1	72.4	68.7	65.0	61.3	60.3
80°	111.3	99.7	88.1	76.6	65.0	58.1	55.8	53.5	51.3	49.0	48.1
82.5°	84.3	75.3	66.3	57.2	48.2	42.9	41.4	39.8	38.3	36.8	36.2
85°	43.9	39.1	34.4	29.6	24.8	22.1	21.4	20.8	20.1	19.4	19.4
87.5°	13.2	12.1	11.1	9.9	8.6	8.2	8.8	9.6	10.3	10.4	10.1
90°	0.6	2.3	4.6	5.7	6.8	8.6	11.4	15.4	18.8	19.4	18.8
92.5°	7.0	10.0	14.1	16.7	20.5	25.9	38.8	56.9	73.1	74.1	62.6
95°	20.0	22.2	27.9	33.1	42.2	55.9	82.1	131.7	197.9	223.6	195.6
97.5°	32.5	35.6	41.6	49.4	59.9	75.4	108.4	177.5	287.4	381.6	400.3
100°	43.9	45.6	50.8	59.9	71.3	87.3	117.5	187.1	310.2	450.5	532.6
102.5°	54.4	55.7	60.8	69.9	81.8	97.7	125.7	187.5	301.6	452.8	581.9
105°	69.6	71.9	75.8	84.4	96.9	112.9	139.7	190.5	284.6	422.6	574.3
107.5°	86.0	87.8	91.7	99.6	112.0	128.1	154.1	198.3	276.1	390.2	524.2
110°	96.9	99.2	102.7	110.1	122.0	138.6	163.7	204.7	274.3	374.7	492.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	107.0	109.3	113.1	120.1	131.6	148.6	172.8	211.6	274.8	364.6	470.8
115°	122.6	125.5	128.9	135.7	147.1	162.5	187.1	221.8	277.2	353.6	443.7
117.5°	138.8	141.1	144.5	150.6	161.5	177.5	200.2	232.8	281.3	348.2	426.6
120°	148.8	151.1	154.5	159.7	171.1	187.1	209.3	240.1	284.0	345.0	417.5
122.5°	158.4	160.3	163.7	169.3	180.7	197.1	218.0	246.5	287.2	343.2	409.7
125°	171.1	172.8	176.2	183.1	194.5	210.4	231.0	256.6	292.0	339.9	398.6
127.5°	181.1	183.4	188.2	195.7	206.7	223.1	243.1	266.1	296.9	338.0	388.4
130°	187.1	189.3	195.0	203.0	214.4	230.4	250.4	272.0	300.5	337.0	381.5
132.5°	192.5	195.3	201.4	209.9	221.7	237.7	256.7	278.0	304.2	336.6	376.0
135°	200.7	203.0	209.9	218.4	231.5	247.5	265.8	285.7	308.5	335.9	368.4
137.5°	208.5	211.2	218.1	227.2	240.2	255.0	273.1	291.6	312.4	335.8	363.0
140°	214.4	216.7	223.6	232.7	245.2	260.1	277.2	294.8	314.2	335.3	359.9
142.5°	220.4	222.2	228.6	237.7	249.8	263.7	280.4	297.6	315.6	335.3	356.7
145°	229.3	231.5	237.2	245.8	257.2	269.7	285.1	301.1	317.1	334.2	352.4
147.5°	238.8	240.5	246.0	253.9	263.4	274.5	289.0	303.1	317.5	332.1	348.1
150°	245.2	246.9	251.5	258.9	267.5	277.7	290.8	304.0	317.1	330.8	344.5
152.5°	251.6	252.4	257.0	263.5	271.6	280.9	292.7	304.4	316.2	328.5	341.3
155°	260.6	261.2	264.6	270.9	277.2	285.7	295.4	305.1	314.8	324.5	335.3
157.5°	268.1	268.7	271.5	276.9	282.0	289.1	297.3	305.1	312.2	320.4	329.7
160°	273.2	273.7	276.0	280.6	285.1	291.4	298.3	305.1	310.8	317.7	325.6
162.5°	278.2	277.8	280.1	283.8	287.9	292.8	298.7	304.6	309.4	315.4	322.0
165°	284.0	283.4	284.6	288.0	290.8	294.3	299.4	303.4	306.8	310.8	315.9
167.5°	288.8	288.1	289.1	291.3	293.4	295.5	299.3	302.6	304.2	306.8	310.0
170°	292.0	290.8	291.4	293.1	294.3	296.0	298.8	301.7	302.8	304.5	306.8
172.5°	293.8	293.1	292.8	294.5	295.2	296.4	298.4	300.3	301.0	301.8	303.6
175°	296.0	295.4	294.8	296.0	296.0	296.5	297.7	298.8	298.3	298.8	299.4
177.5°	297.0	296.1	295.6	296.5	296.5	296.5	297.0	297.9	297.0	296.5	297.0
180°	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0	1128.0
2.5°	1122.7	1124.5	1126.3	1127.0	1126.7	1126.3	1126.0	1125.6
5°	1113.7	1115.8	1117.8	1118.5	1117.8	1117.1	1116.5	1115.8
7.5°	1095.7	1096.3	1096.9	1096.6	1095.4	1094.3	1093.1	1091.9
10°	1077.7	1077.0	1076.3	1075.3	1073.9	1072.6	1071.2	1069.8
12.5°	1057.0	1055.8	1054.5	1052.8	1050.5	1048.3	1046.0	1043.7
15°	1018.4	1014.0	1009.7	1006.4	1004.2	1001.9	999.6	997.4
17.5°	974.7	969.5	964.4	959.9	956.0	952.1	948.2	944.3
20°	944.2	938.5	932.8	927.5	922.5	917.5	912.5	907.5
22.5°	910.7	903.4	896.1	890.6	886.8	883.1	879.4	875.7
25°	855.2	845.9	836.6	830.3	826.9	823.5	820.1	816.7
27.5°	802.3	791.5	780.7	772.5	767.1	761.7	756.3	750.9
30°	765.0	753.4	741.8	733.0	726.8	720.7	714.6	708.5
32.5°	727.4	714.2	701.0	691.5	685.7	680.0	674.2	668.5
35°	668.7	654.4	640.1	630.4	625.4	620.4	615.5	610.5
37.5°	611.4	595.7	580.0	569.2	563.5	557.8	552.1	546.4
40°	573.1	557.0	540.9	529.9	524.0	518.1	512.2	506.3
42.5°	534.5	517.8	501.2	490.0	484.3	478.6	472.9	467.1
45°	478.2	462.1	446.0	435.2	429.8	424.3	418.9	413.4
47.5°	423.5	407.5	391.4	381.0	376.0	371.1	366.1	361.2
50°	388.3	372.6	357.0	346.7	342.0	337.2	332.5	327.7
52.5°	355.1	339.9	324.8	315.1	310.7	306.3	301.9	297.5
55°	304.6	290.9	277.3	268.4	264.1	259.7	255.4	251.1
57.5°	258.6	246.2	233.7	225.6	222.0	218.4	214.7	211.1
60°	227.0	215.4	203.8	196.2	192.6	189.0	185.3	181.7
62.5°	199.5	188.4	177.4	170.8	168.6	166.5	164.3	162.1
65°	162.2	154.5	146.8	142.6	141.9	141.2	140.5	139.9
67.5°	130.9	127.4	123.9	121.7	121.0	120.3	119.6	118.8
70°	113.9	111.6	109.3	107.8	106.8	105.9	105.0	104.1
72.5°	99.1	97.2	95.3	94.1	93.5	93.0	92.4	91.9
75°	78.5	76.9	75.3	74.4	74.2	74.0	73.7	73.5
77.5°	59.4	58.5	57.6	57.0	56.6	56.3	55.9	55.5
80°	47.2	46.3	45.4	44.9	44.9	44.9	44.9	44.9
82.5°	35.7	35.1	34.6	34.3	34.3	34.3	34.3	34.3
85°	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
87.5°	9.8	9.4	9.5	9.5	9.5	9.5	9.5	9.5
90°	18.2	17.1	18.2	18.8	18.8	18.8	18.8	18.8
92.5°	49.7	42.7	37.9	34.3	33.9	32.1	32.5	31.6
95°	149.4	114.6	90.7	78.1	70.7	66.2	64.4	65.0
97.5°	348.7	285.3	223.6	182.4	155.1	141.1	132.8	128.0
100°	520.7	450.0	371.8	302.8	255.5	231.0	214.4	204.2
102.5°	633.4	617.4	560.3	487.1	435.7	393.8	373.2	359.3
105°	692.9	757.3	764.8	745.9	710.6	675.2	650.7	642.7
107.5°	650.0	747.1	806.4	834.0	838.4	836.5	831.6	821.0
110°	613.1	715.1	788.1	834.9	859.4	870.3	875.4	874.8





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CATALOG NUMBER: SA2XXRDIP-C675D530U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	579.3	677.3	755.3	808.9	843.0	861.1	870.8	873.9
115°	537.8	625.6	700.3	759.1	799.5	825.8	840.6	845.7
117.5°	506.5	583.6	651.4	706.5	747.8	775.5	791.1	795.4
120°	491.0	561.7	622.2	674.1	714.0	740.8	757.3	763.0
122.5°	478.7	543.5	600.7	647.6	683.4	709.8	724.5	729.3
125°	460.8	519.5	569.7	612.5	645.6	667.2	681.5	686.1
127.5°	443.1	496.3	543.6	583.1	611.9	632.2	644.5	648.2
130°	431.7	480.8	525.8	563.4	591.4	610.8	622.2	626.7
132.5°	420.8	466.2	507.6	542.9	570.4	589.8	600.3	604.4
135°	405.5	443.1	480.8	512.7	537.2	556.0	566.3	568.6
137.5°	393.3	424.8	454.6	482.5	504.8	521.0	530.0	533.4
140°	385.5	412.9	439.1	464.2	482.5	497.3	505.8	509.3
142.5°	379.1	402.4	425.0	446.0	463.3	476.8	484.4	485.1
145°	370.1	388.9	406.6	423.2	436.8	446.5	452.2	453.9
147.5°	363.2	378.0	391.8	403.9	415.2	422.9	426.8	427.8
150°	358.1	370.7	382.7	392.9	401.5	408.3	411.7	412.3
152.5°	353.1	364.8	374.9	383.8	390.5	396.5	399.0	399.1
155°	346.2	355.3	363.8	370.1	376.4	380.4	382.7	381.5
157.5°	338.1	345.7	352.9	357.8	362.2	365.6	366.6	366.6
160°	333.0	339.3	345.6	349.6	353.6	356.4	357.0	357.0
162.5°	328.0	333.4	338.8	341.8	345.8	347.8	348.3	347.9
165°	320.5	324.5	328.5	330.8	333.0	335.3	335.3	334.8
167.5°	313.3	316.4	319.1	321.2	322.2	323.5	323.4	322.7
170°	309.7	311.4	313.7	314.8	315.4	317.1	316.5	315.4
172.5°	305.6	306.8	308.6	309.3	309.9	310.7	310.1	309.4
175°	301.1	301.7	302.3	302.8	302.8	303.4	302.8	301.7
177.5°	297.9	297.9	298.4	298.4	298.4	298.4	297.9	297.0
180°	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5

(END OF REPORT)