

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: P331685-840

Luminaire Tested: **SA2XXRDIP-C675D530U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331685-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
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-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

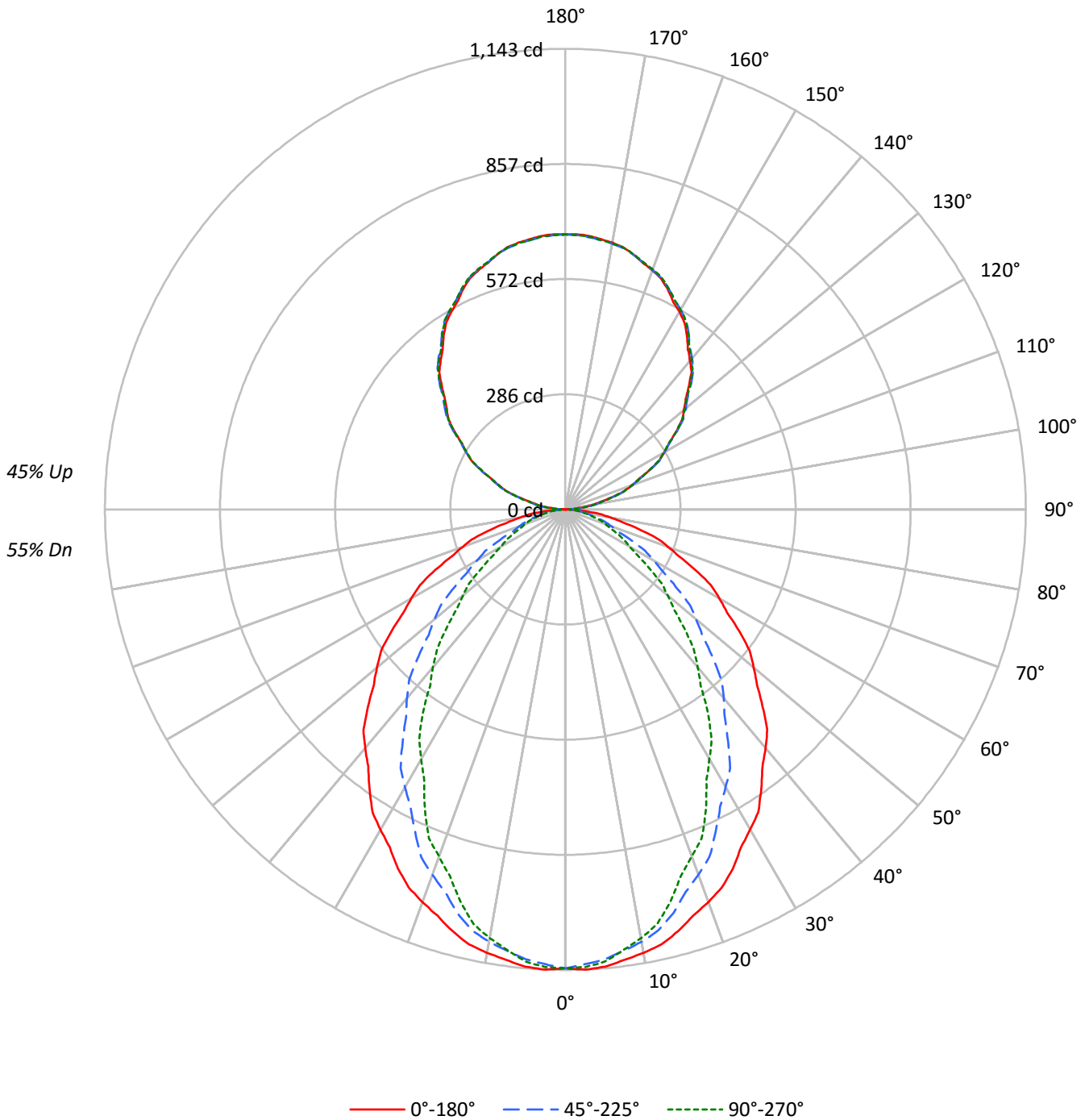
Lumens per Lamp: N/A
Luminaire Lumens: 4253.8 lumens
Efficiency: N/A
Efficacy: 105.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	95	92	88	92	89	85	83	76	74	72	65	63	62	55	53	52	47
2	91	84	78	73	84	78	73	69	68	64	60	58	55	52	49	47	45	41
3	83	74	67	61	77	69	63	58	60	55	51	52	48	45	44	41	39	35
4	77	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34	31
5	70	59	51	45	65	55	48	43	48	43	39	42	38	34	36	32	30	27
6	65	53	45	40	60	50	43	38	44	38	34	38	34	30	33	29	27	24
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	26	24	21
8	56	44	36	31	52	41	35	30	37	31	27	32	27	24	28	24	22	19
9	52	40	33	28	49	38	31	27	34	28	24	29	25	22	26	22	20	18
10	49	37	30	25	46	35	29	24	31	26	22	27	23	20	24	20	18	16

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	2.5
10°-20°	292.8	6.9
20°-30°	411.1	9.7
30°-40°	448.3	10.5
40°-50°	412.2	9.7
50°-60°	323.8	7.6
60°-70°	211.1	5.0
70°-80°	108.8	2.6
80°-90°	31.0	0.7
90°-100°	43.3	1.0
100°-110°	134.3	3.2
110°-120°	229.6	5.4
120°-130°	301.9	7.1
130°-140°	338.8	8.0
140°-150°	332.2	7.8
150°-160°	278.7	6.6
160°-170°	184.8	4.3
170°-180°	64.6	1.5
0°-30°	810.5	19.1
0°-40°	1258.9	29.6
0°-60°	1994.8	46.9
0°-90°	2345.7	55.1
90°-120°	407.1	9.6
90°-150°	1380.1	32.4
90°-180°	1908.0	44.9
0°-180°	4253.8	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°	1	8	20	19	20	3
95°	30	35	37	37	36	34
105°	124	125	127	128	128	131
115°	230	234	233	232	230	228
125°	335	340	339	337	336	299
135°	434	440	441	440	439	335
145°	526	530	534	534	532	329
155°	602	604	605	608	606	277
165°	655	654	654	658	655	185
175°	681	680	678	682	679	65
180°	682	682	682	682	682	



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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	11.0	9.8	8.7	8.4	9.0	9.5	10.1	10.6	10.4
90°	0.6	2.1	3.6	5.2	6.8	8.9	11.7	14.5	17.4	20.2	19.9
92.5°	10.3	11.4	12.5	13.6	14.7	15.7	16.4	17.0	17.7	18.3	18.4
95°	30.0	31.2	32.5	33.8	35.0	35.9	36.1	36.4	36.6	36.9	36.9
97.5°	54.7	55.8	57.0	58.1	59.2	60.0	60.5	61.0	61.5	62.0	62.0
100°	73.1	74.1	75.1	76.2	77.3	78.0	78.4	78.7	79.1	79.5	79.5
102.5°	92.5	93.3	94.1	94.9	95.7	96.4	96.9	97.4	97.9	98.4	98.5
105°	123.8	124.2	124.6	124.9	125.3	125.6	125.9	126.1	126.4	126.7	126.9
107.5°	155.4	155.9	156.5	157.0	157.6	157.9	157.9	157.9	157.9	157.9	158.0
110°	175.6	176.4	177.1	177.9	178.7	179.0	179.0	179.0	179.0	179.0	179.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	197.7	198.5	199.2	200.1	200.9	201.2	201.1	201.0	200.9	200.8	200.5
115°	230.4	231.2	231.9	232.7	233.4	233.7	233.4	233.2	232.9	232.7	232.6
117.5°	262.9	263.9	264.9	265.9	266.9	267.1	266.4	265.6	264.9	264.2	263.9
120°	284.5	285.5	286.5	287.5	288.6	288.6	287.5	286.5	285.5	284.5	284.5
122.5°	304.3	305.5	306.8	308.0	309.2	309.4	308.7	308.0	307.3	306.6	306.3
125°	335.2	336.3	337.5	338.6	339.7	340.1	339.7	339.4	339.0	338.6	338.2
127.5°	365.2	366.7	368.1	369.6	371.0	371.5	371.1	370.6	370.2	369.7	369.2
130°	384.2	385.8	387.4	389.1	390.7	391.4	391.2	390.9	390.7	390.4	390.2
132.5°	405.3	406.7	408.0	409.4	410.7	411.4	411.5	411.5	411.6	411.6	411.1
135°	433.6	435.0	436.5	437.9	439.3	440.1	440.3	440.6	440.9	441.1	441.0
137.5°	463.4	464.6	465.7	467.0	468.1	468.8	469.2	469.5	469.8	470.1	470.0
140°	481.4	482.6	483.7	484.8	486.0	487.0	487.6	488.2	488.9	489.5	489.5
142.5°	499.9	501.0	502.2	503.3	504.4	505.2	505.7	506.1	506.5	507.0	507.1
145°	526.3	527.3	528.2	529.1	530.0	530.8	531.5	532.3	533.1	533.8	533.9
147.5°	550.0	551.0	552.1	553.2	554.2	555.0	555.5	556.0	556.5	557.1	557.3
150°	566.1	566.8	567.6	568.4	569.2	569.8	570.3	570.8	571.3	571.9	572.2
152.5°	580.4	581.2	581.9	582.7	583.4	584.1	584.7	585.3	585.9	586.6	587.0
155°	601.8	602.2	602.6	602.9	603.3	603.7	604.1	604.5	604.8	605.2	605.9
157.5°	620.1	620.4	620.6	620.9	621.2	621.4	621.6	621.9	622.1	622.3	623.2
160°	631.2	631.4	631.7	631.9	632.2	632.4	632.5	632.6	632.8	632.9	633.7
162.5°	641.3	641.4	641.4	641.5	641.5	641.6	641.7	641.9	642.0	642.1	643.0
165°	654.8	654.6	654.5	654.4	654.3	654.2	654.2	654.2	654.2	654.2	655.1
167.5°	666.0	665.7	665.3	664.9	664.5	664.3	664.3	664.3	664.2	664.2	665.1
170°	672.1	671.7	671.3	670.9	670.6	670.2	670.1	669.9	669.8	669.7	670.7
172.5°	676.2	675.8	675.4	675.0	674.7	674.4	674.3	674.2	674.0	673.9	674.8
175°	681.3	680.9	680.4	680.1	679.7	679.4	679.1	678.9	678.6	678.3	679.2
177.5°	683.4	683.0	682.7	682.4	682.1	681.9	681.7	681.5	681.3	681.1	681.7
180°	682.4	682.4	682.4	682.4	682.4	682.4	682.4	682.4	682.4	682.4	682.4



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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°	10.2	9.9	9.7	9.6	9.6	9.6	9.7	9.7
90°	19.7	19.4	19.1	19.1	19.2	19.3	19.5	19.6
92.5°	18.4	18.5	18.5	18.6	18.6	18.6	18.7	18.7
95°	36.9	36.9	36.9	36.8	36.5	36.3	36.0	35.7
97.5°	62.0	62.0	62.0	61.9	61.9	61.9	61.9	61.8
100°	79.5	79.5	79.5	79.4	79.3	79.2	79.1	78.9
102.5°	98.6	98.7	98.8	98.8	98.7	98.5	98.4	98.3
105°	127.2	127.4	127.7	127.8	127.8	127.8	127.8	127.8
107.5°	158.1	158.2	158.3	158.0	157.4	156.9	156.3	155.7
110°	179.0	179.0	179.0	178.9	178.5	178.1	177.7	177.3



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CATALOG NUMBER: SA2XXRDIP-C675D530U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	200.2	199.9	199.5	199.2	198.9	198.6	198.3	198.1
115°	232.4	232.3	232.2	231.9	231.5	231.2	230.8	230.4
117.5°	263.6	263.3	263.0	262.7	262.3	261.9	261.5	261.1
120°	284.5	284.5	284.5	284.3	283.9	283.6	283.2	282.8
122.5°	306.0	305.7	305.4	305.1	304.8	304.5	304.3	304.0
125°	337.8	337.5	337.1	336.8	336.7	336.6	336.4	336.3
127.5°	368.8	368.3	367.9	367.4	367.0	366.6	366.2	365.8
130°	389.9	389.7	389.4	389.0	388.5	388.0	387.5	387.0
132.5°	410.5	409.9	409.4	408.9	408.5	408.1	407.7	407.3
135°	440.9	440.7	440.6	440.3	440.0	439.6	439.2	438.8
137.5°	469.9	469.8	469.7	469.4	468.9	468.4	467.9	467.4
140°	489.5	489.5	489.5	489.3	488.7	488.2	487.7	487.2
142.5°	507.2	507.3	507.4	507.2	506.6	506.1	505.6	505.1
145°	534.1	534.2	534.3	534.1	533.6	533.1	532.6	532.1
147.5°	557.6	558.0	558.3	558.2	557.6	557.1	556.6	556.1
150°	572.6	573.0	573.4	573.4	573.0	572.6	572.2	571.9
152.5°	587.5	588.0	588.5	588.5	588.0	587.5	587.0	586.6
155°	606.5	607.1	607.8	607.9	607.5	607.1	606.7	606.4
157.5°	624.0	624.9	625.8	625.9	625.3	624.7	624.1	623.4
160°	634.4	635.2	635.9	636.1	635.6	635.1	634.5	634.0
162.5°	643.8	644.7	645.6	645.7	645.1	644.5	643.9	643.3
165°	656.0	656.9	657.7	657.9	657.2	656.6	656.0	655.3
167.5°	666.0	666.9	667.8	667.9	667.2	666.6	665.9	665.2
170°	671.6	672.5	673.3	673.4	672.6	671.9	671.1	670.3
172.5°	675.7	676.6	677.4	677.5	676.8	676.0	675.2	674.5
175°	680.1	681.1	682.0	682.1	681.3	680.4	679.7	678.9
177.5°	682.3	682.9	683.5	683.5	682.9	682.3	681.7	681.1
180°	682.4	682.4	682.4	682.4	682.4	682.4	682.4	682.4

(END OF REPORT)