

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: P331346-840

Luminaire Tested: **SA2XXDIP-C675D530U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331346-840  
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: SA2XXDIP-C675D530U840-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

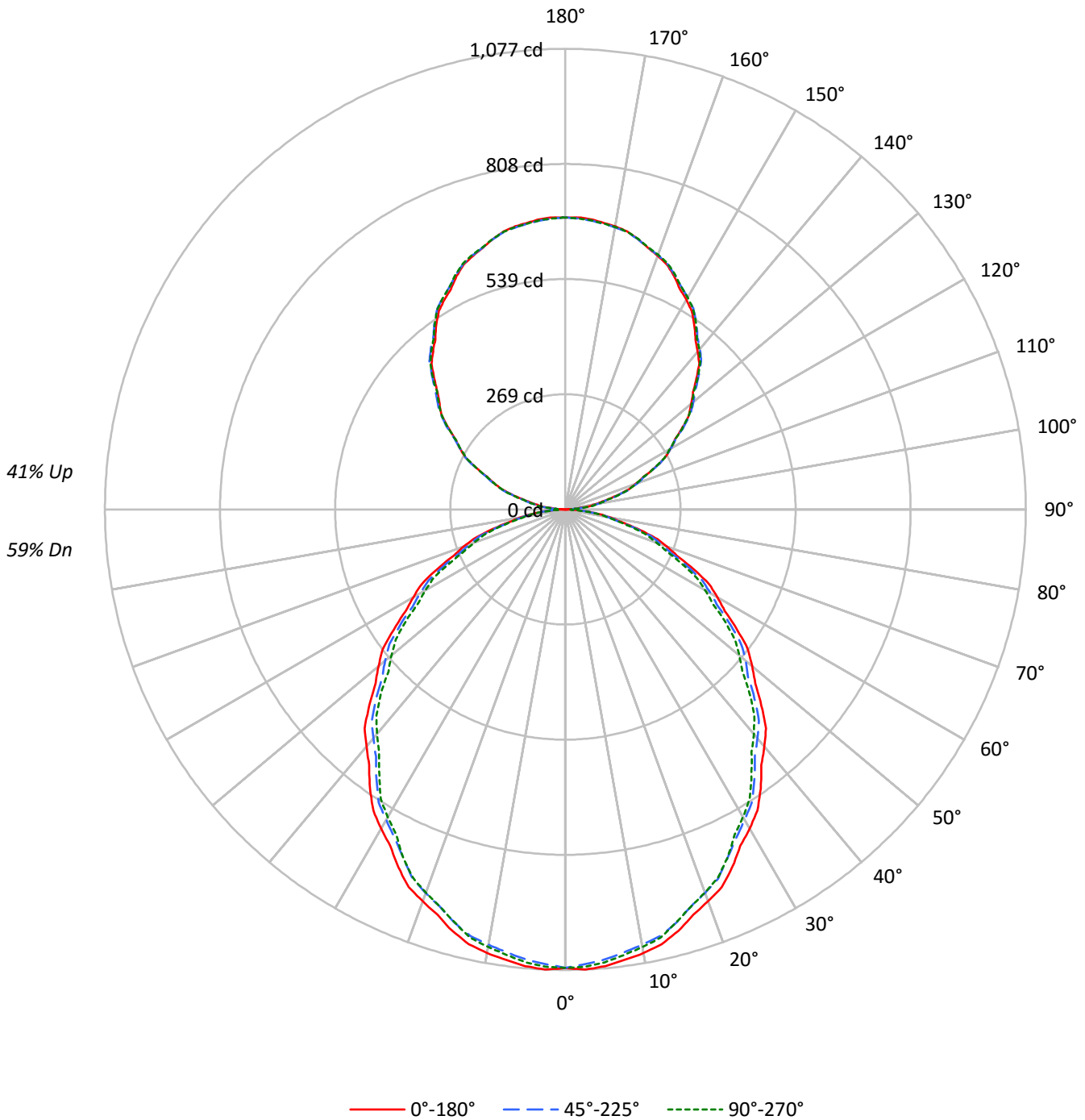
Lumens per Lamp: N/A  
Luminaire Lumens: 4638.6 lumens  
Efficiency: N/A  
Efficacy: 115.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

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									
RC	80									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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59																			
1	100	95	91	88	93	89	86	83	77	75	73	67	65	63	57	55	54	50																			
2	91	83	77	72	84	78	72	68	68	64	60	59	55	53	50	48	46	42																			
3	83	73	66	60	77	69	62	57	60	55	51	52	48	45	44	41	39	35																			
4	76	65	57	51	70	61	54	48	53	48	43	46	42	38	40	36	34	30																			
5	70	58	50	44	65	54	47	41	48	42	37	41	37	33	36	32	29	26																			
6	64	52	44	38	60	49	41	36	43	37	33	38	33	29	32	29	26	23																			
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	30	26	23	20																			
8	55	43	35	29	51	40	33	28	36	30	26	31	27	23	27	23	21	18																			
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	19	17																			
10	48	36	29	24	45	34	27	23	30	25	21	27	22	19	23	20	17	15																			

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

	0°	45°	90°
0°	17312	17312	17312
5°	17378	17126	17227
10°	17274	16952	17038
15°	17060	16732	16715
20°	16756	16402	16385
25°	16456	15998	15998
30°	16067	15627	15491
35°	15707	15179	14954
40°	15253	14731	14450
45°	14805	14289	13935
50°	14320	13828	13335
55°	13813	13292	12797
60°	13249	12649	12184
65°	12642	12015	11461
70°	11877	11240	10707
75°	10805	10356	10100
80°	9586	9298	8815
85°	7836	7447	6688



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.8	2.2
10°-20°	283.7	6.1
20°-30°	417.0	9.0
30°-40°	484.3	10.4
40°-50°	483.8	10.4
50°-60°	421.9	9.1
60°-70°	312.0	6.7
70°-80°	176.7	3.8
80°-90°	50.2	1.1
90°-100°	43.3	0.9
100°-110°	134.3	2.9
110°-120°	229.6	4.9
120°-130°	301.9	6.5
130°-140°	338.8	7.3
140°-150°	332.2	7.2
150°-160°	278.7	6.0
160°-170°	184.8	4.0
170°-180°	64.6	1.4
0°-30°	801.5	17.3
0°-40°	1285.8	27.7
0°-60°	2191.5	47.2
0°-90°	2730.4	58.9
90°-120°	407.1	8.8
90°-150°	1380.1	29.8
90°-180°	1908.0	41.1
0°-180°	4638.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1072	1072	1072	1072	1072	
5°	1072	1068	1057	1064	1063	102
15°	1021	1014	1001	1005	1000	287
25°	924	915	898	900	898	425
35°	797	786	770	764	759	497
45°	648	641	626	615	610	500
55°	491	484	472	460	455	439
65°	331	324	314	305	300	327
75°	173	171	166	160	162	185
85°	42	41	40	37	36	48
90°	1	8	20	19	20	4
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°	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2
2.5°	1077.1	1076.2	1075.3	1074.4	1073.5	1072.0	1070.0	1067.9	1065.9	1063.9	1065.7
5°	1072.2	1071.3	1070.4	1069.4	1068.5	1066.8	1064.3	1061.8	1059.2	1056.7	1058.5
7.5°	1062.7	1061.3	1059.9	1058.4	1057.0	1055.0	1052.5	1049.9	1047.3	1044.7	1046.5
10°	1053.6	1052.0	1050.4	1048.7	1047.2	1045.0	1042.3	1039.6	1036.7	1034.0	1035.8
12.5°	1041.3	1039.9	1038.3	1036.9	1035.5	1033.5	1030.7	1027.9	1025.2	1022.5	1023.8
15°	1020.6	1019.3	1017.8	1016.5	1015.1	1012.9	1010.0	1006.9	1004.0	1001.0	1002.0
17.5°	994.2	992.8	991.5	990.1	988.8	986.5	983.5	980.5	977.4	974.4	975.5
20°	975.2	973.9	972.5	971.1	969.8	967.5	964.2	961.1	957.9	954.6	955.3
22.5°	956.2	954.3	952.4	950.5	948.6	946.1	943.1	940.1	937.1	934.0	934.1
25°	923.7	921.9	920.1	918.2	916.4	913.5	909.6	905.7	901.8	898.0	898.4
27.5°	886.6	884.9	883.3	881.6	880.0	877.7	874.5	871.5	868.4	865.4	864.6
30°	861.8	860.0	858.2	856.4	854.5	851.9	848.5	845.1	841.6	838.2	837.5
32.5°	835.5	833.9	832.5	831.0	829.6	827.1	823.4	819.8	816.2	812.5	811.3
35°	796.9	794.7	792.3	790.0	787.7	784.8	781.1	777.4	773.8	770.1	768.7
37.5°	753.4	751.3	749.3	747.3	745.4	742.5	738.8	735.2	731.5	727.8	726.1
40°	723.7	721.9	720.0	718.2	716.4	713.7	709.9	706.3	702.7	698.9	696.9
42.5°	694.9	693.0	691.2	689.3	687.5	684.8	681.1	677.4	673.8	670.1	667.8
45°	648.4	646.8	645.2	643.7	642.1	639.5	636.1	632.7	629.2	625.8	623.3
47.5°	602.3	600.8	599.3	597.7	596.2	593.7	590.1	586.5	583.0	579.4	576.7
50°	570.1	569.0	567.8	566.6	565.5	563.3	560.2	556.9	553.7	550.5	547.3
52.5°	538.8	537.2	535.7	534.2	532.7	530.5	527.5	524.4	521.4	518.4	515.7
55°	490.7	489.4	488.0	486.6	485.2	483.1	480.4	477.7	474.9	472.2	469.4
57.5°	442.4	441.4	440.3	439.2	438.1	436.1	433.0	430.0	427.0	423.9	421.2
60°	410.3	409.4	408.5	407.6	406.7	404.6	401.4	398.2	395.0	391.7	389.2
62.5°	379.0	377.5	376.1	374.6	373.1	371.1	368.7	366.2	363.8	361.2	358.9
65°	330.9	329.5	328.2	326.8	325.4	323.6	321.3	319.0	316.7	314.5	312.4
67.5°	282.1	280.9	279.8	278.7	277.6	276.1	274.0	272.0	269.9	267.8	266.2
70°	251.6	250.6	249.7	248.8	247.9	246.4	244.3	242.3	240.2	238.1	236.5
72.5°	220.3	219.2	218.3	217.4	216.5	215.4	214.1	212.8	211.5	210.1	208.5
75°	173.2	172.7	172.3	171.8	171.4	170.6	169.5	168.2	167.1	166.0	164.6
77.5°	131.2	130.4	129.6	128.8	128.1	127.4	126.9	126.4	126.0	125.5	124.9
80°	103.1	102.9	102.6	102.4	102.2	101.8	101.4	100.9	100.5	100.0	99.3
82.5°	76.7	76.6	76.6	76.5	76.5	76.3	76.0	75.8	75.5	75.2	74.4
85°	42.3	42.0	41.8	41.6	41.3	41.1	40.9	40.7	40.4	40.2	39.5
87.5°	14.9	14.9	14.8	14.7	14.7	14.7	14.9	15.1	15.3	15.6	14.9
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°	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2
2.5°	1067.5	1069.4	1071.3	1072.0	1071.6	1071.3	1070.9	1070.6
5°	1060.4	1062.2	1064.0	1064.7	1064.3	1063.8	1063.4	1062.9
7.5°	1048.4	1050.3	1052.1	1052.7	1052.2	1051.8	1051.3	1050.8
10°	1037.6	1039.6	1041.4	1041.9	1041.3	1040.6	1039.9	1039.2
12.5°	1025.0	1026.3	1027.6	1027.9	1027.4	1027.0	1026.5	1026.0
15°	1002.9	1003.8	1004.7	1004.6	1003.4	1002.3	1001.2	1000.0
17.5°	976.5	977.5	978.7	978.7	977.5	976.4	975.3	974.2
20°	956.0	956.7	957.4	957.3	956.3	955.4	954.5	953.6
22.5°	934.3	934.4	934.5	934.3	933.8	933.2	932.7	932.2
25°	898.9	899.3	899.8	899.8	899.3	898.9	898.4	898.0
27.5°	863.9	863.3	862.6	861.7	860.6	859.5	858.4	857.3
30°	836.8	836.1	835.4	834.6	833.6	832.7	831.8	830.9
32.5°	810.1	808.9	807.6	806.6	805.7	804.8	803.8	802.8
35°	767.4	766.0	764.6	763.4	762.2	761.0	759.9	758.7
37.5°	724.5	722.8	721.0	719.6	718.5	717.4	716.4	715.3
40°	694.9	692.8	690.7	689.2	688.3	687.4	686.5	685.6
42.5°	665.6	663.4	661.2	659.3	658.0	656.8	655.5	654.2
45°	620.8	618.2	615.7	614.0	613.1	612.2	611.3	610.3
47.5°	574.1	571.4	568.8	566.7	565.4	564.1	562.8	561.5
50°	544.1	540.9	537.7	535.5	534.3	533.2	532.1	530.9
52.5°	513.0	510.4	507.8	505.6	504.1	502.6	501.1	499.6
55°	466.7	463.9	461.2	459.2	458.1	457.0	455.8	454.6
57.5°	418.5	415.8	413.1	411.3	410.4	409.6	408.7	407.8
60°	386.7	384.2	381.6	380.1	379.4	378.7	378.0	377.3
62.5°	356.6	354.3	351.9	350.3	349.4	348.5	347.7	346.8
65°	310.3	308.2	306.2	304.6	303.5	302.3	301.1	300.0
67.5°	264.6	263.1	261.5	260.1	259.2	258.3	257.4	256.5
70°	234.9	233.4	231.8	230.5	229.5	228.6	227.7	226.8
72.5°	206.9	205.3	203.7	202.5	201.8	201.1	200.4	199.5
75°	163.2	161.9	160.5	160.1	160.5	161.0	161.4	161.9
77.5°	124.2	123.5	122.8	122.2	121.5	120.9	120.3	119.6
80°	98.7	98.0	97.3	96.6	96.2	95.7	95.3	94.8
82.5°	73.5	72.6	71.8	71.3	71.2	71.1	71.0	70.9
85°	38.9	38.2	37.5	37.0	36.8	36.6	36.4	36.1
87.5°	14.3	13.7	13.1	12.8	12.6	12.5	12.3	12.1
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





TEST NUMBER: P331346-840

CATALOG NUMBER: SA2XXDIP-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)