

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: P331686-830

Luminaire Tested: **SA2XXRDIP-C675D530U830-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331686-830
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-C675D530U830-4F0-1E-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

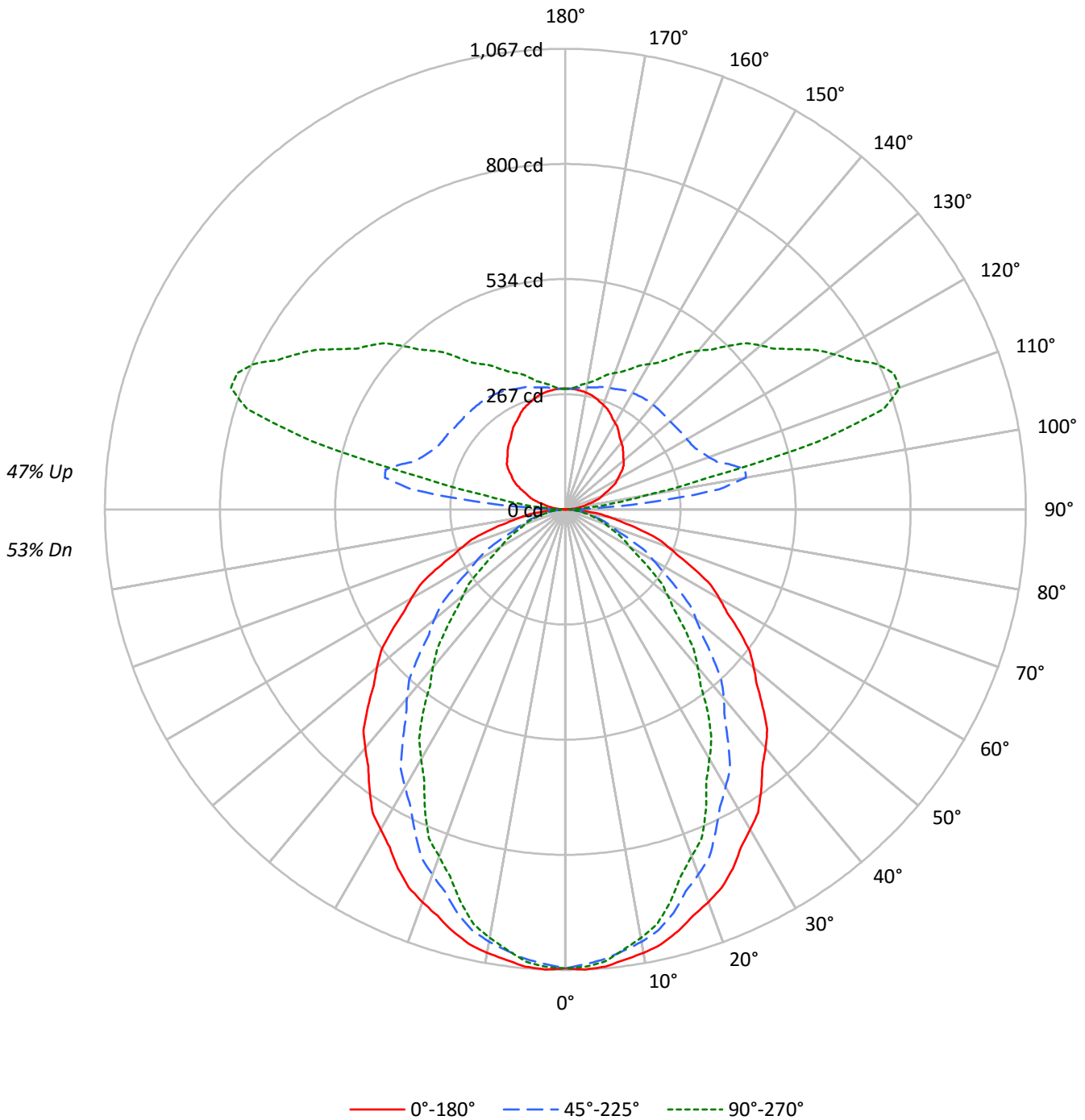
Lumens per Lamp: N/A
Luminaire Lumens: 4134.3 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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



TEST NUMBER: P331686-830
CATALOG NUMBER: SA2XXRDIP-C675D530U830-4F0-1E-UDD-F4

Luminous Intensity Polar Plot





TEST NUMBER: P331686-830

CATALOG NUMBER: SA2XXRDIP-C675D530U830-4F0-1E-UDD-F4

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°	17166	17166	17166
5°	17232	16951	17045
10°	17100	16674	16531
15°	16904	16181	15714
20°	16632	15474	14698
25°	16352	14672	13714
30°	15966	13848	12450
35°	15589	12952	11341
40°	15209	12026	10058
45°	14764	10985	8896
50°	14307	9934	7759
55°	13841	8802	6663
60°	13298	7611	5532
65°	12684	6395	5039
70°	11948	5268	4631
75°	11042	4803	4323
80°	9754	4296	3933
85°	7669	3390	3390



TEST NUMBER: P331686-830

CATALOG NUMBER: SA2XXRDIP-C675D530U830-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.5	2.4
10°-20°	273.3	6.6
20°-30°	383.7	9.3
30°-40°	418.4	10.1
40°-50°	384.7	9.3
50°-60°	302.2	7.3
60°-70°	197.0	4.8
70°-80°	101.6	2.5
80°-90°	28.9	0.7
90°-100°	111.8	2.7
100°-110°	379.3	9.2
110°-120°	402.9	9.7
120°-130°	331.7	8.0
130°-140°	266.3	6.4
140°-150°	201.3	4.9
150°-160°	141.4	3.4
160°-170°	83.3	2.0
170°-180°	27.1	0.7
0°-30°	756.5	18.3
0°-40°	1174.9	28.4
0°-60°	1861.8	45.0
0°-90°	2189.3	53.0
90°-120°	893.9	21.6
90°-150°	1693.2	41.0
90°-180°	1945.0	47.0
0°-180°	4134.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1063	1063	1063	1063	1063	
5°	1063	1058	1046	1054	1052	101
15°	1011	999	968	950	940	285
25°	918	885	824	786	770	422
35°	791	740	657	599	575	495
45°	647	580	481	415	390	499
55°	492	415	313	257	237	439
65°	332	254	167	136	132	329
75°	177	112	77	71	69	187
85°	41	22	18	18	18	49
90°	1	7	18	17	18	3
95°	19	46	211	80	61	20
105°	66	99	398	712	606	70
115°	116	146	333	688	797	115
125°	161	191	320	557	647	143
135°	189	226	317	468	536	146
145°	216	248	315	391	428	136
155°	246	265	306	346	360	113
165°	268	276	293	311	316	75
175°	279	279	282	285	284	26
180°	280	280	280	280	280	



TEST NUMBER: P331686-830

CATALOG NUMBER: SA2XXRDIP-C675D530U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2
2.5°	1067.1	1066.2	1065.4	1064.5	1063.7	1062.2	1060.4	1058.5	1056.7	1054.8	1056.5
5°	1063.2	1062.2	1061.1	1060.0	1058.9	1057.1	1054.2	1051.5	1048.7	1045.9	1047.8
7.5°	1052.3	1050.9	1049.6	1048.3	1047.0	1044.6	1041.4	1038.2	1034.9	1031.7	1032.2
10°	1043.0	1041.5	1040.0	1038.5	1037.0	1034.2	1029.8	1025.6	1021.3	1017.0	1016.4
12.5°	1031.4	1029.6	1027.7	1026.0	1024.1	1020.5	1015.0	1009.6	1004.0	998.5	997.4
15°	1011.3	1008.9	1006.5	1004.2	1001.8	997.0	989.8	982.5	975.2	968.0	963.9
17.5°	986.5	982.9	979.3	975.6	972.0	965.6	956.3	947.0	937.6	928.3	923.5
20°	968.0	963.7	959.4	955.2	950.8	943.4	932.6	922.0	911.3	900.6	895.2
22.5°	947.9	943.2	938.4	933.6	928.8	920.4	908.3	896.3	884.2	872.1	865.3
25°	917.9	911.1	904.3	897.4	890.6	880.1	866.0	851.9	837.7	823.6	814.8
27.5°	881.7	874.3	866.9	859.4	852.0	840.3	824.4	808.5	792.6	776.7	766.5
30°	856.4	848.2	840.1	832.0	823.9	811.2	794.1	777.0	759.9	742.8	731.9
32.5°	831.7	822.2	812.8	803.2	793.7	780.2	762.8	745.4	727.9	710.5	698.0
35°	790.9	780.0	769.1	758.2	747.3	732.4	713.6	694.8	676.0	657.1	643.7
37.5°	750.2	738.1	726.1	714.2	702.2	686.2	666.2	646.1	626.0	606.0	591.2
40°	721.6	708.8	696.0	683.2	670.3	653.6	632.8	612.1	591.4	570.6	555.4
42.5°	692.4	678.9	665.3	651.9	638.4	620.9	599.5	578.1	556.6	535.2	519.4
45°	646.6	632.3	617.9	603.6	589.3	570.9	548.5	526.0	503.5	481.1	465.9
47.5°	601.9	586.7	571.6	556.4	541.2	522.1	498.9	475.7	452.5	429.3	414.2
50°	569.6	554.4	539.2	524.1	508.9	489.6	466.0	442.5	419.0	395.5	380.7
52.5°	538.1	522.2	506.3	490.5	474.6	455.2	432.2	409.2	386.2	363.2	348.9
55°	491.7	475.0	458.4	441.7	425.0	405.1	382.0	358.9	335.8	312.7	299.9
57.5°	444.1	427.1	409.9	392.9	375.7	356.1	333.8	311.7	289.5	267.3	255.5
60°	411.8	394.7	377.6	360.5	343.4	323.9	301.8	279.7	257.8	235.7	224.8
62.5°	380.2	363.2	346.0	328.9	311.8	292.8	271.8	250.8	229.8	208.8	198.4
65°	332.0	314.6	297.3	280.0	262.7	244.4	225.2	205.9	186.6	167.4	160.1
67.5°	285.4	268.2	251.0	233.8	216.6	199.3	182.0	164.8	147.4	130.1	126.8
70°	253.1	236.4	219.7	203.0	186.3	170.6	155.9	141.1	126.4	111.6	109.4
72.5°	222.3	206.2	190.3	174.3	158.3	144.4	132.5	120.6	108.9	97.0	95.2
75°	177.0	162.1	147.1	132.1	117.2	106.0	98.8	91.5	84.3	77.0	75.5
77.5°	132.6	119.4	106.3	93.2	80.1	71.7	68.2	64.8	61.3	57.8	56.8
80°	104.9	94.0	83.0	72.2	61.3	54.8	52.6	50.4	48.4	46.2	45.3
82.5°	79.5	71.0	62.5	53.9	45.4	40.4	39.0	37.5	36.1	34.7	34.1
85°	41.4	36.9	32.4	27.9	23.4	20.8	20.2	19.6	18.9	18.3	18.3
87.5°	12.4	11.4	10.5	9.3	8.1	7.7	8.3	9.0	9.7	9.8	9.5
90°	0.6	2.2	4.3	5.4	6.4	8.1	10.7	14.5	17.7	18.3	17.7
92.5°	6.6	9.4	13.3	15.7	19.3	24.4	36.6	53.6	68.9	69.8	59.0
95°	18.9	20.9	26.3	31.2	39.8	52.7	77.4	124.1	186.5	210.8	184.4
97.5°	30.6	33.6	39.2	46.6	56.5	71.1	102.2	167.3	270.9	359.7	377.3
100°	41.4	43.0	47.9	56.5	67.2	82.3	110.7	176.3	292.4	424.6	502.0
102.5°	51.3	52.5	57.3	65.9	77.1	92.1	118.5	176.7	284.3	426.8	548.5
105°	65.6	67.8	71.4	79.6	91.3	106.4	131.7	179.6	268.2	398.3	541.3
107.5°	81.1	82.8	86.4	93.9	105.6	120.7	145.2	186.9	260.2	367.8	494.1
110°	91.3	93.5	96.8	103.8	115.0	130.6	154.3	192.9	258.5	353.2	464.4



TEST NUMBER: P331686-830

CATALOG NUMBER: SA2XXRDIP-C675D530U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	100.9	103.0	106.6	113.2	124.0	140.1	162.9	199.4	259.0	343.7	443.7
115°	115.6	118.3	121.5	127.9	138.6	153.2	176.3	209.1	261.3	333.3	418.2
117.5°	130.8	133.0	136.2	141.9	152.2	167.3	188.7	219.4	265.1	328.2	402.1
120°	140.3	142.4	145.6	150.5	161.3	176.3	197.3	226.3	267.7	325.2	393.5
122.5°	149.3	151.1	154.3	159.6	170.3	185.8	205.5	232.3	270.7	323.5	386.2
125°	161.3	162.9	166.1	172.6	183.3	198.3	217.7	241.9	275.2	320.4	375.7
127.5°	170.7	172.9	177.4	184.5	194.8	210.3	229.1	250.8	279.8	318.6	366.1
130°	176.3	178.4	183.8	191.3	202.1	217.2	236.0	256.4	283.2	317.6	359.6
132.5°	181.4	184.1	189.8	197.8	209.0	224.0	242.0	262.0	286.7	317.3	354.4
135°	189.2	191.3	197.8	205.9	218.2	233.3	250.5	269.3	290.8	316.6	347.2
137.5°	196.5	199.1	205.6	214.1	226.4	240.3	257.4	274.8	294.5	316.5	342.1
140°	202.1	204.2	210.8	219.3	231.1	245.2	261.3	277.9	296.1	316.0	339.2
142.5°	207.7	209.4	215.5	224.0	235.4	248.5	264.3	280.5	297.5	316.0	336.2
145°	216.1	218.2	223.6	231.7	242.4	254.2	268.7	283.8	298.9	315.0	332.2
147.5°	225.1	226.7	231.9	239.3	248.3	258.7	272.4	285.7	299.3	313.0	328.1
150°	231.1	232.7	237.0	244.0	252.1	261.7	274.1	286.5	298.9	311.8	324.7
152.5°	237.1	237.9	242.2	248.4	256.0	264.8	275.9	286.9	298.0	309.6	321.7
155°	245.6	246.2	249.4	255.3	261.3	269.3	278.4	287.6	296.7	305.9	316.0
157.5°	252.7	253.3	255.9	261.0	265.8	272.5	280.2	287.6	294.3	302.0	310.8
160°	257.5	258.0	260.1	264.5	268.7	274.7	281.2	287.6	292.9	299.4	306.9
162.5°	262.2	261.8	264.0	267.5	271.4	276.0	281.5	287.1	291.6	297.3	303.5
165°	267.7	267.1	268.2	271.5	274.1	277.4	282.2	286.0	289.2	292.9	297.7
167.5°	272.2	271.5	272.5	274.6	276.5	278.5	282.1	285.2	286.7	289.2	292.2
170°	275.2	274.1	274.7	276.3	277.4	279.0	281.6	284.4	285.4	287.0	289.2
172.5°	276.9	276.3	276.0	277.6	278.2	279.4	281.3	283.0	283.7	284.5	286.2
175°	279.0	278.4	277.9	279.0	279.0	279.5	280.6	281.6	281.2	281.6	282.2
177.5°	279.9	279.1	278.6	279.5	279.5	279.5	279.9	280.8	279.9	279.5	279.9
180°	279.5	279.5	279.5	279.5	279.5	279.5	279.5	279.5	279.5	279.5	279.5



TEST NUMBER: P331686-830

CATALOG NUMBER: SA2XXRDIP-C675D530U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2
2.5°	1058.2	1059.9	1061.6	1062.2	1062.0	1061.6	1061.3	1060.9
5°	1049.7	1051.7	1053.6	1054.2	1053.6	1052.9	1052.3	1051.7
7.5°	1032.7	1033.3	1033.9	1033.6	1032.5	1031.4	1030.3	1029.2
10°	1015.8	1015.1	1014.5	1013.5	1012.2	1011.0	1009.7	1008.3
12.5°	996.3	995.1	993.9	992.3	990.1	988.1	985.9	983.7
15°	959.9	955.7	951.7	948.6	946.5	944.3	942.2	940.1
17.5°	918.7	913.8	909.0	904.7	901.1	897.4	893.7	890.0
20°	889.9	884.6	879.2	874.2	869.5	864.8	860.1	855.4
22.5°	858.4	851.5	844.6	839.4	835.8	832.4	828.9	825.4
25°	806.1	797.3	788.5	782.6	779.4	776.2	773.0	769.8
27.5°	756.2	746.0	735.8	728.1	723.0	717.9	712.8	707.8
30°	721.0	710.1	699.2	690.9	685.0	679.3	673.5	667.8
32.5°	685.6	673.2	660.7	651.8	646.3	640.9	635.5	630.1
35°	630.3	616.8	603.3	594.2	589.5	584.8	580.1	575.4
37.5°	576.3	561.5	546.7	536.5	531.1	525.8	520.4	515.0
40°	540.2	525.0	509.8	499.5	493.9	488.3	482.8	477.2
42.5°	503.8	488.0	472.4	461.8	456.5	451.1	445.7	440.3
45°	450.7	435.5	420.4	410.2	405.1	399.9	394.8	389.6
47.5°	399.2	384.1	368.9	359.1	354.4	349.8	345.1	340.4
50°	366.0	351.2	336.5	326.8	322.3	317.8	313.4	308.9
52.5°	334.7	320.4	306.1	297.0	292.8	288.7	284.6	280.4
55°	287.1	274.2	261.4	253.0	248.9	244.8	240.7	236.7
57.5°	243.7	232.1	220.3	212.6	209.2	205.9	202.4	199.0
60°	214.0	203.0	192.1	184.9	181.5	178.1	174.7	171.3
62.5°	188.0	177.6	167.2	161.0	158.9	156.9	154.9	152.8
65°	152.9	145.6	138.4	134.4	133.7	133.1	132.4	131.9
67.5°	123.4	120.1	116.8	114.7	114.0	113.4	112.7	112.0
70°	107.4	105.2	103.0	101.6	100.7	99.8	99.0	98.1
72.5°	93.4	91.6	89.8	88.7	88.1	87.7	87.1	86.6
75°	74.0	72.5	71.0	70.1	69.9	69.7	69.5	69.3
77.5°	56.0	55.1	54.3	53.7	53.3	53.1	52.7	52.3
80°	44.5	43.6	42.8	42.3	42.3	42.3	42.3	42.3
82.5°	33.6	33.1	32.6	32.3	32.3	32.3	32.3	32.3
85°	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3
87.5°	9.2	8.9	9.0	9.0	9.0	9.0	9.0	9.0
90°	17.2	16.1	17.2	17.7	17.7	17.7	17.7	17.7
92.5°	46.8	40.2	35.7	32.3	32.0	30.3	30.6	29.8
95°	140.8	108.0	85.5	73.6	66.6	62.4	60.7	61.3
97.5°	328.7	268.9	210.8	171.9	146.2	133.0	125.2	120.6
100°	490.8	424.1	350.4	285.4	240.8	217.7	202.1	192.5
102.5°	597.0	581.9	528.1	459.1	410.7	371.2	351.8	338.7
105°	653.1	713.8	720.9	703.0	669.8	636.4	613.3	605.8
107.5°	612.7	704.2	760.1	786.1	790.2	788.4	783.8	773.8
110°	577.9	674.0	742.8	786.9	810.0	820.3	825.1	824.5



TEST NUMBER: P331686-830

CATALOG NUMBER: SA2XXRDIP-C675D530U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	546.0	638.4	711.9	762.4	794.6	811.6	820.8	823.7
115°	506.9	589.7	660.1	715.5	753.6	778.4	792.3	797.1
117.5°	477.4	550.1	614.0	665.9	704.8	730.9	745.6	749.7
120°	462.8	529.4	586.4	635.4	673.0	698.2	713.8	719.2
122.5°	451.2	512.3	566.2	610.4	644.1	669.0	682.9	687.4
125°	434.3	489.7	537.0	577.3	608.5	628.9	642.3	646.7
127.5°	417.6	467.8	512.4	549.6	576.7	595.9	607.5	611.0
130°	406.9	453.2	495.6	531.0	557.4	575.7	586.4	590.7
132.5°	396.6	439.4	478.4	511.7	537.6	555.9	565.8	569.7
135°	382.2	417.6	453.2	483.2	506.3	524.1	533.8	535.9
137.5°	370.7	400.4	428.5	454.8	475.8	491.1	499.5	502.8
140°	363.4	389.2	413.9	437.5	454.8	468.7	476.7	480.0
142.5°	357.3	379.3	400.6	420.4	436.7	449.4	456.6	457.2
145°	348.8	366.6	383.2	398.9	411.7	420.8	426.2	427.8
147.5°	342.3	356.3	369.3	380.7	391.3	398.6	402.3	403.2
150°	337.5	349.4	360.7	370.3	378.4	384.8	388.0	388.6
152.5°	332.8	343.8	353.4	361.7	368.1	373.7	376.1	376.2
155°	326.3	334.9	342.9	348.8	354.8	358.5	360.7	359.6
157.5°	318.7	325.8	332.6	337.2	341.4	344.6	345.5	345.5
160°	313.9	319.8	325.7	329.5	333.3	335.9	336.5	336.5
162.5°	309.2	314.2	319.3	322.2	325.9	327.8	328.3	327.9
165°	302.1	305.9	309.6	311.8	313.9	316.0	316.0	315.6
167.5°	295.3	298.2	300.8	302.7	303.7	304.9	304.8	304.2
170°	291.9	293.5	295.7	296.7	297.3	298.9	298.3	297.3
172.5°	288.0	289.2	290.9	291.5	292.1	292.8	292.3	291.6
175°	283.8	284.4	284.9	285.4	285.4	286.0	285.4	284.4
177.5°	280.8	280.8	281.3	281.3	281.3	281.3	280.8	279.9
180°	279.5	279.5	279.5	279.5	279.5	279.5	279.5	279.5

(END OF REPORT)