

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: P331716-927

Luminaire Tested: **SA2XXRDIP-C865D530U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331716-927  
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-C865D530U927-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

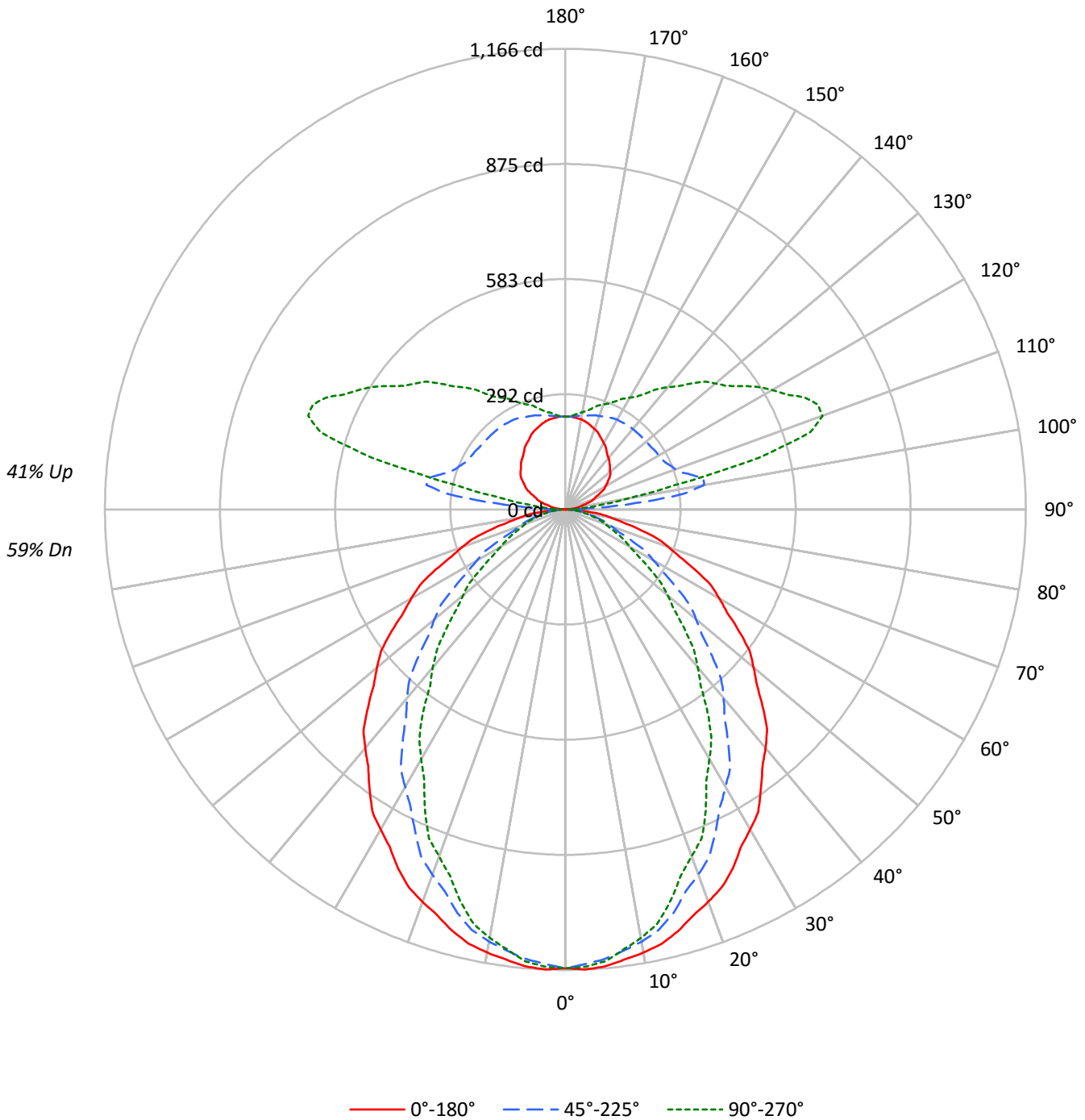
Lumens per Lamp: N/A  
Luminaire Lumens: 4025.9 lumens  
Efficiency: N/A  
Efficacy: 82.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 48.8  
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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	59				
1	100	96	93	89	94	90	87	84	79	76	74	68	66	65	58	57	56	51				
2	92	85	79	74	86	79	74	70	69	66	62	60	57	55	52	50	48	44				
3	84	75	68	62	78	70	64	59	62	57	53	54	50	47	46	44	41	38				
4	77	67	59	53	72	63	56	51	55	50	46	48	44	41	42	39	36	33				
5	71	60	52	46	66	56	49	44	50	44	40	44	39	36	38	35	32	29				
6	66	54	46	40	61	51	44	39	45	39	35	40	35	32	35	31	28	26				
7	61	49	41	36	57	46	39	34	41	35	31	36	32	28	32	28	25	23				
8	57	45	37	32	53	42	35	31	38	32	28	33	29	25	29	26	23	21				
9	53	41	34	29	50	39	32	27	35	29	25	31	26	23	27	24	21	19				
10	50	38	31	26	47	36	29	25	32	27	23	29	24	21	25	22	19	17				

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

	0°	45°	90°
0°	18755	18755	18755
5°	18827	18519	18621
10°	18682	18216	18061
15°	18467	17677	17167
20°	18170	16905	16057
25°	17865	16030	14982
30°	17443	15129	13601
35°	17030	14152	12390
40°	16617	13139	10989
45°	16130	12001	9720
50°	15631	10854	8475
55°	15122	9619	7279
60°	14528	8315	6042
65°	13857	6988	5501
70°	13053	5755	5061
75°	12071	5246	4722
80°	10646	4695	4305
85°	8373	3705	3705



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.7	2.7
10°-20°	298.5	7.4
20°-30°	419.2	10.4
30°-40°	457.1	11.4
40°-50°	420.3	10.4
50°-60°	330.1	8.2
60°-70°	215.2	5.3
70°-80°	111.0	2.8
80°-90°	30.9	0.8
90°-100°	93.9	2.3
100°-110°	318.8	7.9
110°-120°	338.6	8.4
120°-130°	278.8	6.9
130°-140°	223.9	5.6
140°-150°	169.2	4.2
150°-160°	118.9	3.0
160°-170°	70.0	1.7
170°-180°	22.8	0.6
0°-30°	826.5	20.5
0°-40°	1283.6	31.9
0°-60°	2034.0	50.5
0°-90°	2391.1	59.4
90°-120°	751.3	18.7
90°-150°	1423.1	35.3
90°-180°	1635.0	40.6
0°-180°	4025.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1162	1162	1162	1162	1162	
5°	1162	1156	1143	1151	1149	110
15°	1105	1092	1058	1038	1027	311
25°	1003	967	900	858	841	461
35°	864	808	718	654	629	541
45°	706	634	526	454	426	545
55°	537	453	342	281	259	480
65°	363	277	183	149	144	359
75°	194	122	84	77	76	205
85°	45	24	20	20	20	53
90°	0	6	15	15	15	3
95°	16	39	177	67	52	17
105°	55	83	335	598	509	59
115°	97	123	280	578	670	96
125°	136	160	269	468	544	120
135°	159	190	266	394	450	123
145°	182	209	265	329	360	114
155°	206	223	257	291	302	95
165°	225	232	246	261	265	63
175°	234	235	237	240	239	22
180°	235	235	235	235	235	



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CATALOG NUMBER: SA2XXRDIP-C865D530U927-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6
2.5°	1165.8	1164.8	1163.9	1162.9	1162.1	1160.5	1158.5	1156.4	1154.4	1152.3	1154.2
5°	1161.6	1160.4	1159.2	1158.0	1156.9	1154.8	1151.8	1148.7	1145.7	1142.6	1144.7
7.5°	1149.5	1148.1	1146.7	1145.3	1143.8	1141.3	1137.7	1134.2	1130.6	1127.0	1127.7
10°	1139.5	1137.8	1136.2	1134.6	1132.9	1129.8	1125.1	1120.5	1115.8	1111.1	1110.4
12.5°	1126.9	1124.8	1122.8	1120.9	1118.8	1114.8	1108.8	1102.9	1096.9	1090.9	1089.6
15°	1104.8	1102.2	1099.6	1097.1	1094.5	1089.3	1081.3	1073.4	1065.4	1057.5	1053.0
17.5°	1077.7	1073.7	1069.8	1065.9	1062.0	1054.9	1044.7	1034.5	1024.4	1014.2	1008.9
20°	1057.5	1052.8	1048.1	1043.5	1038.8	1030.6	1018.9	1007.3	995.6	983.9	978.0
22.5°	1035.6	1030.4	1025.2	1019.9	1014.7	1005.5	992.3	979.1	966.0	952.8	945.2
25°	1002.8	995.4	987.9	980.4	973.0	961.5	946.0	930.7	915.2	899.8	890.3
27.5°	963.3	955.1	947.1	938.9	930.8	918.1	900.6	883.3	865.9	848.5	837.3
30°	935.6	926.7	917.8	908.9	900.1	886.3	867.6	848.9	830.2	811.5	799.6
32.5°	908.6	898.3	887.9	877.5	867.1	852.5	833.4	814.3	795.3	776.2	762.6
35°	864.0	852.2	840.3	828.3	816.4	800.2	779.6	759.1	738.6	718.0	703.2
37.5°	819.5	806.4	793.4	780.2	767.1	749.6	727.8	705.8	684.0	662.0	645.8
40°	788.4	774.4	760.3	746.3	732.3	714.0	691.3	668.7	646.0	623.4	606.7
42.5°	756.5	741.6	726.9	712.2	697.4	678.3	654.9	631.4	608.1	584.6	567.5
45°	706.4	690.7	675.1	659.4	643.8	623.7	599.2	574.6	550.1	525.6	509.0
47.5°	657.6	641.0	624.5	607.8	591.3	570.3	545.0	519.7	494.3	469.1	452.6
50°	622.3	605.7	589.1	572.5	556.0	534.8	509.1	483.4	457.7	432.1	415.9
52.5°	587.8	570.5	553.2	535.8	518.5	497.3	472.1	446.9	421.8	396.7	381.1
55°	537.2	519.0	500.7	482.5	464.3	442.5	417.3	392.1	366.9	341.7	327.6
57.5°	485.2	466.5	447.8	429.1	410.5	389.0	364.7	340.5	316.2	292.0	279.2
60°	449.9	431.2	412.6	393.9	375.2	353.8	329.7	305.6	281.6	257.5	245.7
62.5°	415.4	396.7	378.0	359.3	340.6	319.9	296.9	274.0	251.0	228.1	216.7
65°	362.7	343.7	324.8	305.9	287.0	267.0	246.0	225.0	203.9	182.9	175.0
67.5°	311.8	293.0	274.3	255.4	236.6	217.8	198.9	180.0	161.1	142.1	138.5
70°	276.5	258.3	240.0	221.8	203.6	186.4	170.3	154.2	138.1	121.9	119.6
72.5°	242.8	225.4	207.9	190.4	172.9	157.7	144.8	131.8	118.9	106.0	104.0
75°	193.5	177.1	160.7	144.3	128.0	115.9	107.9	100.0	92.1	84.1	82.5
77.5°	144.9	130.5	116.1	101.8	87.5	78.4	74.5	70.7	66.9	63.1	62.1
80°	114.5	102.7	90.8	78.8	66.9	59.8	57.4	55.1	52.8	50.5	49.5
82.5°	86.8	77.6	68.2	58.9	49.7	44.2	42.6	41.0	39.5	37.9	37.3
85°	45.2	40.3	35.4	30.5	25.6	22.8	22.1	21.4	20.7	20.0	20.0
87.5°	13.5	12.4	11.2	9.9	8.6	8.1	8.6	9.2	9.7	9.8	9.5
90°	0.5	1.8	3.6	4.5	5.4	6.8	9.0	12.2	14.9	15.4	14.9
92.5°	5.5	7.9	11.2	13.2	16.2	20.5	30.7	45.1	57.9	58.7	49.6
95°	15.8	17.6	22.1	26.2	33.4	44.3	65.0	104.3	156.8	177.1	155.0
97.5°	25.7	28.2	33.0	39.1	47.5	59.7	85.9	140.6	227.7	302.3	317.1
100°	34.8	36.1	40.2	47.5	56.5	69.2	93.1	148.2	245.7	356.9	421.9
102.5°	43.1	44.1	48.2	55.4	64.8	77.4	99.6	148.5	238.9	358.7	461.0
105°	55.1	57.0	60.0	66.9	76.8	89.4	110.7	150.9	225.5	334.8	455.0
107.5°	68.1	69.6	72.6	78.9	88.7	101.5	122.1	157.1	218.7	309.1	415.3
110°	76.8	78.6	81.4	87.2	96.6	109.8	129.7	162.2	217.3	296.8	390.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	84.8	86.6	89.6	95.1	104.3	117.7	136.9	167.6	217.7	288.8	373.0
115°	97.1	99.4	102.1	107.5	116.5	128.7	148.2	175.7	219.6	280.1	351.5
117.5°	110.0	111.8	114.5	119.3	127.9	140.6	158.6	184.4	222.8	275.8	337.9
120°	117.9	119.7	122.4	126.5	135.5	148.2	165.8	190.2	225.0	273.3	330.7
122.5°	125.5	127.0	129.7	134.1	143.1	156.1	172.7	195.3	227.5	271.9	324.6
125°	135.5	136.9	139.6	145.0	154.1	166.7	183.0	203.3	231.3	269.3	315.8
127.5°	143.5	145.3	149.1	155.0	163.7	176.7	192.6	210.8	235.2	267.8	307.7
130°	148.2	150.0	154.5	160.8	169.8	182.5	198.4	215.5	238.1	267.0	302.2
132.5°	152.5	154.7	159.5	166.3	175.6	188.3	203.4	220.2	241.0	266.6	297.9
135°	159.0	160.8	166.3	173.0	183.4	196.1	210.6	226.3	244.4	266.1	291.8
137.5°	165.2	167.3	172.8	180.0	190.3	202.0	216.3	231.0	247.5	266.0	287.6
140°	169.8	171.7	177.1	184.3	194.2	206.0	219.6	233.5	248.9	265.6	285.1
142.5°	174.6	176.0	181.1	188.3	197.9	208.9	222.1	235.8	250.0	265.6	282.6
145°	181.6	183.4	187.9	194.7	203.7	213.7	225.9	238.5	251.2	264.7	279.2
147.5°	189.2	190.5	194.9	201.1	208.7	217.5	228.9	240.1	251.5	263.1	275.8
150°	194.2	195.6	199.2	205.1	211.9	220.0	230.4	240.8	251.2	262.1	272.9
152.5°	199.3	199.9	203.6	208.7	215.2	222.5	231.9	241.1	250.5	260.2	270.4
155°	206.4	206.9	209.6	214.6	219.6	226.3	234.0	241.7	249.4	257.1	265.6
157.5°	212.4	212.9	215.1	219.4	223.4	229.0	235.5	241.7	247.3	253.8	261.2
160°	216.4	216.8	218.6	222.3	225.9	230.8	236.3	241.7	246.2	251.7	257.9
162.5°	220.4	220.1	221.9	224.8	228.1	232.0	236.6	241.3	245.1	249.9	255.1
165°	225.0	224.5	225.5	228.1	230.4	233.1	237.2	240.3	243.0	246.2	250.3
167.5°	228.8	228.2	229.0	230.8	232.4	234.1	237.1	239.7	241.0	243.0	245.6
170°	231.3	230.4	230.8	232.2	233.1	234.5	236.7	239.0	239.9	241.2	243.0
172.5°	232.7	232.2	232.0	233.3	233.9	234.8	236.4	237.9	238.4	239.1	240.5
175°	234.5	234.0	233.5	234.5	234.5	234.9	235.8	236.7	236.3	236.7	237.2
177.5°	235.3	234.6	234.2	234.9	234.9	234.9	235.3	236.0	235.3	234.9	235.3
180°	234.9	234.9	234.9	234.9	234.9	234.9	234.9	234.9	234.9	234.9	234.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6
2.5°	1156.0	1157.9	1159.8	1160.5	1160.2	1159.8	1159.4	1159.0
5°	1146.8	1148.9	1151.0	1151.8	1151.0	1150.3	1149.6	1148.9
7.5°	1128.3	1128.9	1129.5	1129.2	1128.0	1126.8	1125.5	1124.3
10°	1109.7	1109.0	1108.3	1107.2	1105.8	1104.5	1103.0	1101.6
12.5°	1088.4	1087.1	1085.8	1084.1	1081.7	1079.4	1077.1	1074.8
15°	1048.6	1044.2	1039.7	1036.3	1034.0	1031.7	1029.4	1027.0
17.5°	1003.6	998.3	993.1	988.4	984.4	980.4	976.4	972.3
20°	972.2	966.4	960.5	955.1	949.9	944.8	939.6	934.5
22.5°	937.8	930.3	922.7	917.0	913.2	909.3	905.5	901.7
25°	880.7	871.1	861.5	854.9	851.4	848.0	844.5	841.0
27.5°	826.2	815.0	803.8	795.5	790.0	784.3	778.8	773.2
30°	787.7	775.8	763.8	754.7	748.5	742.1	735.9	729.5
32.5°	749.0	735.4	721.8	712.0	706.2	700.2	694.3	688.3
35°	688.5	673.8	659.1	649.2	644.0	638.9	633.7	628.6
37.5°	629.6	613.4	597.2	586.1	580.3	574.3	568.5	562.6
40°	590.2	573.6	557.0	545.7	539.6	533.5	527.4	521.4
42.5°	550.4	533.2	516.1	504.5	498.7	492.8	486.9	481.0
45°	492.4	475.9	459.2	448.1	442.5	437.0	431.3	425.7
47.5°	436.0	419.5	403.1	392.3	387.2	382.1	377.0	371.9
50°	399.8	383.7	367.6	357.0	352.1	347.2	342.3	337.4
52.5°	365.6	350.1	334.5	324.5	319.9	315.4	310.9	306.3
55°	313.6	299.6	285.6	276.3	271.9	267.4	263.0	258.6
57.5°	266.3	253.5	240.7	232.3	228.6	224.8	221.1	217.4
60°	233.7	221.8	209.8	202.1	198.3	194.6	190.8	187.1
62.5°	205.4	194.1	182.7	175.9	173.6	171.4	169.1	166.9
65°	167.0	159.1	151.1	146.8	146.1	145.4	144.7	144.0
67.5°	134.8	131.2	127.5	125.3	124.6	123.8	123.1	122.4
70°	117.2	114.9	112.6	111.0	110.0	109.1	108.1	107.2
72.5°	102.0	100.1	98.1	96.9	96.3	95.7	95.1	94.6
75°	80.8	79.2	77.6	76.6	76.4	76.1	75.9	75.7
77.5°	61.2	60.3	59.3	58.7	58.3	57.9	57.6	57.2
80°	48.6	47.7	46.7	46.3	46.3	46.3	46.3	46.3
82.5°	36.8	36.1	35.6	35.3	35.3	35.3	35.3	35.3
85°	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
87.5°	9.3	8.9	8.9	8.9	8.9	8.9	8.9	8.9
90°	14.4	13.5	14.4	14.9	14.9	14.9	14.9	14.9
92.5°	39.4	33.8	30.0	27.2	26.9	25.4	25.7	25.0
95°	118.4	90.8	71.9	61.9	56.0	52.4	51.0	51.5
97.5°	276.2	226.0	177.1	144.5	122.9	111.8	105.2	101.4
100°	412.5	356.5	294.5	239.9	202.4	183.0	169.8	161.8
102.5°	501.8	489.1	443.9	385.9	345.2	312.0	295.6	284.6
105°	548.9	599.9	605.9	590.9	562.9	534.9	515.5	509.1
107.5°	514.9	591.8	638.8	660.7	664.2	662.7	658.8	650.4
110°	485.7	566.5	624.3	661.4	680.8	689.4	693.5	693.0





TEST NUMBER: P331716-927

CATALOG NUMBER: SA2XXRDIP-C865D530U927-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	458.9	536.5	598.3	640.8	667.8	682.1	689.8	692.3
115°	426.0	495.6	554.8	601.3	633.3	654.2	665.9	669.9
117.5°	401.2	462.3	516.0	559.7	592.4	614.3	626.7	630.1
120°	389.0	445.0	492.9	534.0	565.6	586.8	599.9	604.4
122.5°	379.2	430.6	475.9	513.0	541.4	562.3	573.9	577.7
125°	365.0	411.5	451.3	485.2	511.4	528.5	539.9	543.5
127.5°	351.0	393.2	430.6	461.9	484.7	500.8	510.6	513.5
130°	342.0	380.9	416.5	446.3	468.5	483.9	492.9	496.5
132.5°	333.4	369.3	402.1	430.1	451.9	467.2	475.5	478.8
135°	321.2	351.0	380.9	406.2	425.6	440.5	448.6	450.4
137.5°	311.6	336.5	360.1	382.2	399.9	412.7	419.9	422.6
140°	305.4	327.1	347.8	367.7	382.2	394.0	400.7	403.5
142.5°	300.3	318.8	336.7	353.3	367.0	377.7	383.7	384.3
145°	293.2	308.1	322.1	335.3	346.0	353.7	358.2	359.6
147.5°	287.7	299.4	310.4	320.0	328.9	335.0	338.1	338.9
150°	283.7	293.7	303.2	311.2	318.1	323.4	326.1	326.6
152.5°	279.7	289.0	297.0	304.0	309.3	314.1	316.1	316.2
155°	274.3	281.5	288.2	293.2	298.2	301.3	303.2	302.2
157.5°	267.8	273.9	279.6	283.4	286.9	289.6	290.4	290.4
160°	263.8	268.8	273.8	276.9	280.1	282.3	282.8	282.8
162.5°	259.8	264.1	268.4	270.8	273.9	275.5	275.9	275.6
165°	253.9	257.1	260.2	262.1	263.8	265.6	265.6	265.2
167.5°	248.2	250.6	252.8	254.4	255.2	256.3	256.2	255.6
170°	245.3	246.7	248.5	249.4	249.9	251.2	250.7	249.9
172.5°	242.1	243.0	244.5	245.0	245.5	246.1	245.7	245.1
175°	238.5	239.0	239.5	239.9	239.9	240.3	239.9	239.0
177.5°	236.0	236.0	236.4	236.4	236.4	236.4	236.0	235.3
180°	234.9	234.9	234.9	234.9	234.9	234.9	234.9	234.9

(END OF REPORT)