

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: P331714-930

Luminaire Tested: **SA2XXRDIP-C865D530U930-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331714-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C865D530U930-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

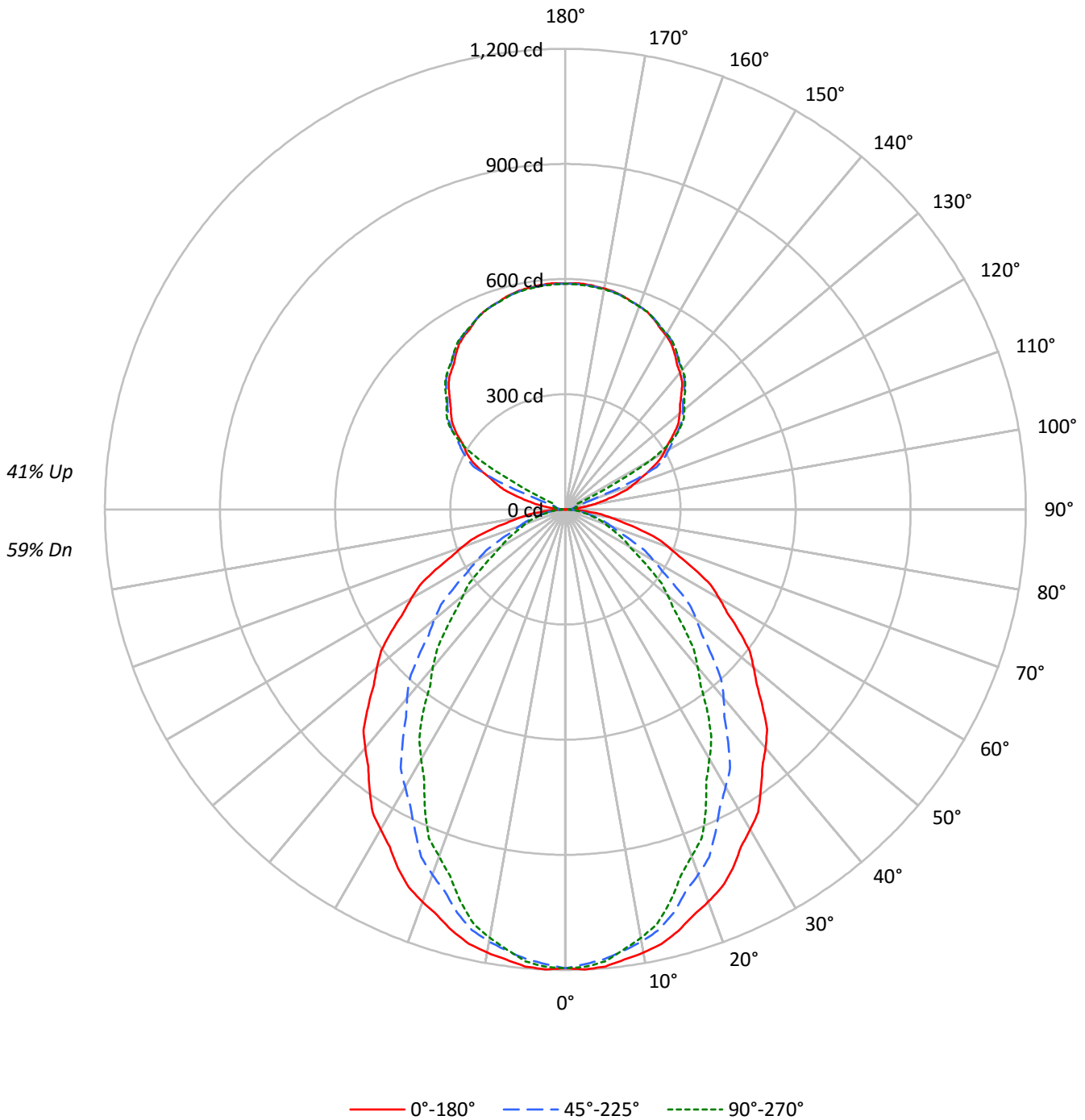
Lumens per Lamp: N/A
Luminaire Lumens: 4183.4 lumens
Efficiency: N/A
Efficacy: 85.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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



TEST NUMBER: P331714-930
CATALOG NUMBER: SA2XXRDIP-C865D530U930-4F0-1E-UDD-F

Luminous Intensity Polar Plot





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CATALOG NUMBER: SA2XXRDIP-C865D530U930-4F0-1E-UDD-F

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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59
1	100	96	92	89	93	90	87	84	78	76	74	68	66	64	58	56	55	51
2	92	85	79	74	85	79	74	70	69	65	62	60	57	55	51	49	47	43
3	84	75	68	62	78	70	64	59	62	57	53	54	50	47	46	43	41	37
4	77	67	59	53	72	63	56	51	55	50	45	48	44	41	42	38	36	33
5	71	60	52	46	66	56	49	44	50	44	40	43	39	36	38	34	32	29
6	66	54	46	40	61	51	44	38	45	39	35	40	35	32	34	31	28	25
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	30	38	32	28	33	29	25	29	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25	31	26	23	27	23	21	19
10	50	38	31	26	46	36	29	25	32	27	23	28	24	21	25	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19302	19302	19302
5°	19376	19060	19164
10°	19226	18748	18589
15°	19005	18191	17668
20°	18699	17399	16526
25°	18387	16498	15419
30°	17952	15571	13998
35°	17527	14564	12751
40°	17102	13523	11310
45°	16600	12353	10003
50°	16088	11170	8721
55°	15564	9897	7491
60°	14951	8561	6219
65°	14258	7194	5662
70°	13430	5925	5207
75°	12420	5402	4860
80°	10962	4826	4426
85°	8633	3798	3798



TEST NUMBER: P331714-930

CATALOG NUMBER: SA2XXRDIP-C865D530U930-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.9	2.7
10°-20°	307.2	7.3
20°-30°	431.5	10.3
30°-40°	470.5	11.2
40°-50°	432.6	10.3
50°-60°	339.7	8.1
60°-70°	221.5	5.3
70°-80°	114.2	2.7
80°-90°	31.1	0.7
90°-100°	19.6	0.5
100°-110°	71.9	1.7
110°-120°	192.3	4.6
120°-130°	317.4	7.6
130°-140°	337.5	8.1
140°-150°	313.7	7.5
150°-160°	252.2	6.0
160°-170°	162.5	3.9
170°-180°	55.9	1.3
0°-30°	850.6	20.3
0°-40°	1321.1	31.6
0°-60°	2093.4	50.0
0°-90°	2460.2	58.8
90°-120°	283.8	6.8
90°-150°	1252.5	29.9
90°-180°	1723.0	41.2
0°-180°	4183.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1196	1196	1196	1196	1196	
5°	1196	1190	1176	1185	1182	113
15°	1137	1124	1088	1068	1057	320
25°	1032	995	926	883	866	474
35°	889	832	739	673	647	556
45°	727	652	541	467	438	561
55°	553	467	352	289	266	494
65°	373	285	188	153	148	370
75°	199	126	87	79	78	211
85°	47	25	20	20	20	55
90°	0	5	8	11	12	3
95°	28	15	17	19	18	34
105°	129	135	26	30	32	138
115°	245	252	262	75	35	241
125°	346	352	360	362	364	308
135°	428	435	439	443	442	330
145°	496	497	503	506	504	310
155°	547	543	548	550	547	252
165°	576	574	575	578	575	163
175°	589	586	587	590	586	56
180°	588	588	588	588	588	



TEST NUMBER: P331714-930

CATALOG NUMBER: SA2XXRDIP-C865D530U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1199.8	1198.8	1197.8	1196.9	1196.0	1194.4	1192.3	1190.2	1188.1	1185.9	1187.9
5°	1195.5	1194.3	1193.0	1191.8	1190.7	1188.5	1185.4	1182.3	1179.1	1176.0	1178.1
7.5°	1183.1	1181.6	1180.1	1178.7	1177.1	1174.6	1170.9	1167.3	1163.6	1159.9	1160.6
10°	1172.7	1171.0	1169.4	1167.7	1166.0	1162.8	1158.0	1153.2	1148.3	1143.5	1142.8
12.5°	1159.8	1157.6	1155.6	1153.6	1151.4	1147.4	1141.2	1135.1	1128.9	1122.7	1121.4
15°	1137.0	1134.4	1131.7	1129.1	1126.4	1121.0	1112.9	1104.7	1096.5	1088.3	1083.8
17.5°	1109.1	1105.1	1101.1	1097.0	1093.0	1085.7	1075.2	1064.7	1054.3	1043.7	1038.4
20°	1088.3	1083.5	1078.7	1073.9	1069.1	1060.7	1048.6	1036.7	1024.7	1012.6	1006.6
22.5°	1065.8	1060.5	1055.1	1049.7	1044.3	1034.9	1021.2	1007.7	994.2	980.6	972.8
25°	1032.1	1024.4	1016.7	1009.0	1001.4	989.5	973.6	957.8	941.9	926.1	916.2
27.5°	991.4	983.0	974.7	966.3	958.0	944.9	926.9	909.1	891.1	873.3	861.8
30°	962.9	953.7	944.6	935.5	926.3	912.2	892.9	873.7	854.4	835.2	823.0
32.5°	935.1	924.5	913.8	903.1	892.4	877.3	857.7	838.0	818.5	798.8	784.9
35°	889.2	877.0	864.8	852.5	840.2	823.5	802.3	781.2	760.1	738.9	723.7
37.5°	843.4	830.0	816.5	803.0	789.5	771.5	749.0	726.4	703.9	681.3	664.6
40°	811.4	797.0	782.5	768.1	753.7	734.8	711.5	688.2	664.9	641.6	624.4
42.5°	778.5	763.3	748.1	733.0	717.7	698.1	674.0	649.9	625.8	601.7	584.1
45°	727.0	710.9	694.8	678.7	662.6	641.9	616.7	591.4	566.1	541.0	523.8
47.5°	676.8	659.7	642.7	625.6	608.5	586.9	560.9	534.8	508.7	482.7	465.8
50°	640.5	623.4	606.3	589.2	572.2	550.4	524.0	497.5	471.1	444.7	428.0
52.5°	605.0	587.1	569.3	551.5	533.6	511.8	485.9	460.0	434.1	408.3	392.2
55°	552.9	534.1	515.4	496.6	477.8	455.4	429.5	403.5	377.6	351.6	337.2
57.5°	499.4	480.1	460.9	441.6	422.5	400.4	375.4	350.4	325.5	300.5	287.3
60°	463.0	443.8	424.6	405.4	386.1	364.1	339.3	314.5	289.8	265.1	252.8
62.5°	427.5	408.3	389.1	369.8	350.6	329.2	305.6	282.0	258.4	234.7	223.1
65°	373.2	353.8	334.3	314.8	295.4	274.8	253.2	231.5	209.9	188.3	180.1
67.5°	320.9	301.6	282.3	262.9	243.5	224.1	204.7	185.2	165.8	146.3	142.5
70°	284.5	265.8	247.0	228.3	209.5	191.8	175.3	158.7	142.1	125.5	123.1
72.5°	249.9	232.0	213.9	196.0	178.0	162.3	149.0	135.7	122.4	109.1	107.0
75°	199.1	182.2	165.4	148.5	131.8	119.3	111.0	102.9	94.7	86.6	84.9
77.5°	149.1	134.3	119.5	104.8	90.0	80.7	76.7	72.8	68.9	64.9	63.9
80°	117.9	105.7	93.4	81.1	68.9	61.6	59.1	56.7	54.3	51.9	51.0
82.5°	89.4	79.8	70.2	60.7	51.1	45.5	43.9	42.2	40.6	39.0	38.4
85°	46.6	41.5	36.4	31.4	26.3	23.5	22.7	22.0	21.3	20.5	20.5
87.5°	13.9	12.6	11.3	9.9	8.6	8.0	8.2	8.3	8.5	8.6	8.6
90°	0.4	1.5	2.5	3.5	4.6	5.5	6.3	7.0	7.7	8.5	9.0
92.5°	8.6	8.5	8.4	8.3	8.2	8.4	8.7	9.1	9.5	9.9	10.1
95°	27.6	24.5	21.4	18.3	15.2	13.9	14.6	15.2	15.9	16.6	17.0
97.5°	54.9	46.1	37.3	28.5	19.7	16.1	17.6	19.2	20.7	22.2	22.6
100°	75.3	62.4	49.4	36.4	23.5	17.9	19.4	21.0	22.7	24.2	25.0
102.5°	97.8	95.1	92.3	89.5	86.8	78.7	65.3	51.9	38.4	24.9	25.9
105°	129.3	132.2	135.0	137.9	140.7	129.2	103.4	77.6	51.8	25.9	27.0
107.5°	165.3	167.6	169.9	172.2	174.5	160.1	129.2	98.2	67.3	36.4	35.3
110°	188.5	190.5	192.5	194.4	196.4	183.8	156.5	129.1	101.7	74.4	65.0



TEST NUMBER: P331714-930

CATALOG NUMBER: SA2XXRDIP-C865D530U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	210.3	212.1	213.8	215.6	217.3	214.8	208.1	201.3	194.5	187.8	153.3
115°	244.7	246.2	247.9	249.5	251.1	253.1	255.4	257.8	260.2	262.5	218.7
117.5°	275.4	277.2	279.0	280.8	282.6	284.3	285.9	287.6	289.2	290.7	280.2
120°	297.8	299.2	300.7	302.1	303.5	305.1	306.8	308.5	310.1	311.9	313.0
122.5°	316.9	318.4	319.9	321.4	322.9	324.6	326.4	328.2	330.1	332.0	332.6
125°	345.9	347.2	348.4	349.6	350.8	352.4	354.2	356.0	357.8	359.5	360.2
127.5°	372.2	373.6	375.0	376.3	377.6	379.0	380.3	381.7	383.0	384.4	385.3
130°	388.9	390.4	391.9	393.5	394.9	396.2	397.3	398.3	399.3	400.4	401.5
132.5°	405.9	407.2	408.5	409.8	411.1	412.2	413.3	414.3	415.3	416.4	417.3
135°	428.0	429.6	431.0	432.6	434.1	435.3	436.1	437.0	437.8	438.6	439.6
137.5°	450.5	451.4	452.5	453.6	454.6	455.7	456.6	457.6	458.5	459.5	460.5
140°	465.0	465.8	466.6	467.3	468.1	469.0	470.0	471.1	472.1	473.1	474.0
142.5°	477.3	478.0	478.7	479.3	480.0	480.9	482.2	483.3	484.5	485.8	486.5
145°	496.5	496.4	496.4	496.3	496.2	496.9	498.6	500.1	501.7	503.4	504.0
147.5°	513.3	512.9	512.6	512.3	511.8	512.5	514.0	515.7	517.2	518.9	519.3
150°	524.2	523.5	522.9	522.2	521.5	522.0	523.5	525.0	526.5	528.0	528.6
152.5°	533.4	532.6	531.9	531.2	530.4	530.8	532.2	533.7	535.1	536.5	537.1
155°	546.7	545.9	545.0	544.2	543.3	543.5	544.6	545.8	546.9	548.0	548.6
157.5°	557.2	556.5	555.8	555.1	554.3	554.4	555.1	556.0	556.8	557.6	558.2
160°	563.4	562.8	562.2	561.7	561.1	561.1	561.7	562.2	562.8	563.4	563.9
162.5°	568.8	568.2	567.6	567.0	566.6	566.5	567.0	567.4	567.9	568.4	569.1
165°	576.1	575.5	574.9	574.4	573.8	573.7	574.0	574.2	574.5	574.8	575.5
167.5°	581.6	581.0	580.4	579.8	579.3	579.1	579.4	579.7	579.9	580.2	580.8
170°	584.6	584.1	583.5	582.9	582.4	582.1	582.4	582.5	582.7	582.9	583.6
172.5°	586.7	586.1	585.5	585.0	584.4	584.2	584.4	584.6	584.7	585.0	585.6
175°	589.3	588.6	588.0	587.3	586.6	586.4	586.6	586.8	586.9	587.2	587.8
177.5°	589.7	589.2	588.6	588.2	587.6	587.3	587.4	587.5	587.6	587.7	588.2
180°	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0



TEST NUMBER: P331714-930

CATALOG NUMBER: SA2XXRDIP-C865D530U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1189.8	1191.7	1193.6	1194.4	1194.0	1193.6	1193.3	1192.9
5°	1180.3	1182.4	1184.6	1185.4	1184.6	1183.9	1183.2	1182.4
7.5°	1161.2	1161.8	1162.5	1162.1	1160.9	1159.7	1158.4	1157.2
10°	1142.1	1141.3	1140.6	1139.5	1138.1	1136.7	1135.2	1133.8
12.5°	1120.1	1118.8	1117.5	1115.7	1113.3	1110.9	1108.5	1106.1
15°	1079.2	1074.6	1070.1	1066.6	1064.2	1061.8	1059.4	1057.0
17.5°	1032.9	1027.4	1022.1	1017.2	1013.1	1009.0	1004.9	1000.7
20°	1000.6	994.6	988.6	982.9	977.6	972.3	967.0	961.8
22.5°	965.2	957.4	949.7	943.8	939.9	935.9	932.0	928.1
25°	906.4	896.5	886.6	879.9	876.3	872.7	869.1	865.5
27.5°	850.3	838.8	827.3	818.7	813.0	807.2	801.5	795.8
30°	810.7	798.4	786.1	776.7	770.3	763.8	757.3	750.8
32.5°	770.9	756.8	742.9	732.8	726.8	720.6	714.5	708.4
35°	708.6	693.5	678.3	668.1	662.8	657.5	652.2	646.9
37.5°	648.0	631.3	614.7	603.2	597.2	591.1	585.1	579.0
40°	607.4	590.4	573.2	561.6	555.4	549.1	542.8	536.6
42.5°	566.5	548.8	531.2	519.3	513.2	507.2	501.1	495.0
45°	506.8	489.8	472.6	461.2	455.4	449.7	443.9	438.1
47.5°	448.7	431.8	414.8	403.7	398.5	393.2	388.0	382.8
50°	411.5	394.8	378.3	367.5	362.4	357.3	352.3	347.2
52.5°	376.3	360.3	344.2	333.9	329.2	324.6	319.9	315.3
55°	322.8	308.3	293.9	284.4	279.8	275.2	270.7	266.1
57.5°	274.1	260.9	247.7	239.1	235.3	231.4	227.6	223.7
60°	240.5	228.3	216.0	208.0	204.1	200.2	196.4	192.6
62.5°	211.4	199.7	188.0	181.0	178.7	176.4	174.1	171.8
65°	171.9	163.7	155.6	151.1	150.3	149.7	149.0	148.2
67.5°	138.8	135.0	131.3	129.0	128.2	127.4	126.7	126.0
70°	120.7	118.3	115.9	114.2	113.2	112.3	111.3	110.3
72.5°	105.0	103.0	100.9	99.7	99.1	98.5	97.9	97.3
75°	83.2	81.5	79.8	78.8	78.6	78.4	78.1	77.9
77.5°	63.0	62.0	61.1	60.4	60.0	59.6	59.3	58.9
80°	50.0	49.1	48.1	47.6	47.6	47.6	47.6	47.6
82.5°	37.8	37.2	36.6	36.4	36.4	36.4	36.4	36.4
85°	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
87.5°	8.4	8.3	8.2	8.2	8.2	8.3	8.3	8.3
90°	9.5	9.9	10.4	10.8	10.9	11.1	11.3	11.5
92.5°	10.4	10.6	10.8	11.0	11.2	11.3	11.4	11.5
95°	17.5	18.0	18.5	18.7	18.6	18.5	18.4	18.3
97.5°	23.0	23.3	23.7	24.0	24.1	24.2	24.3	24.5
100°	25.8	26.5	27.3	27.7	28.0	28.1	28.3	28.5
102.5°	26.9	27.9	28.9	29.5	29.8	30.0	30.2	30.6
105°	28.0	29.1	30.1	30.8	31.2	31.6	32.0	32.4
107.5°	34.2	33.2	32.1	31.8	32.1	32.5	32.9	33.3
110°	55.5	46.1	36.6	32.1	32.4	32.9	33.3	33.6



TEST NUMBER: P331714-930

CATALOG NUMBER: SA2XXRDIP-C865D530U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	118.8	84.3	49.8	32.8	33.0	33.3	33.7	33.9
115°	175.0	131.2	87.4	62.1	55.3	48.5	41.7	34.9
117.5°	269.6	259.0	248.4	232.0	209.5	187.2	164.9	142.4
120°	314.1	315.3	316.4	310.6	297.8	285.1	272.3	259.5
122.5°	333.3	334.0	334.7	333.8	331.3	328.8	326.4	323.8
125°	360.9	361.5	362.2	362.6	363.0	363.2	363.5	363.8
127.5°	386.3	387.3	388.2	388.7	388.8	388.9	388.9	389.0
130°	402.4	403.5	404.6	405.0	404.9	404.8	404.7	404.6
132.5°	418.2	419.1	420.0	420.3	420.2	420.1	420.0	420.0
135°	440.6	441.5	442.5	442.9	442.6	442.5	442.3	442.1
137.5°	461.4	462.3	463.3	463.5	463.2	462.8	462.6	462.3
140°	474.8	475.6	476.5	476.7	476.2	475.8	475.3	474.8
142.5°	487.3	488.0	488.9	489.0	488.5	488.0	487.5	487.1
145°	504.7	505.3	506.0	506.1	505.6	505.2	504.7	504.2
147.5°	519.8	520.3	520.8	520.8	520.5	520.1	519.7	519.3
150°	529.1	529.7	530.3	530.4	529.9	529.4	528.9	528.5
152.5°	537.7	538.3	538.8	538.7	538.2	537.5	536.9	536.3
155°	549.2	549.8	550.3	550.2	549.4	548.7	548.0	547.1
157.5°	558.8	559.5	560.1	560.1	559.3	558.6	557.8	557.1
160°	564.4	565.0	565.6	565.6	564.9	564.3	563.5	562.9
162.5°	569.7	570.4	571.0	571.0	570.1	569.3	568.5	567.7
165°	576.2	576.8	577.5	577.5	576.8	576.2	575.5	574.8
167.5°	581.5	582.2	582.9	582.8	581.9	581.1	580.2	579.4
170°	584.2	584.9	585.5	585.5	584.6	583.8	582.9	582.0
172.5°	586.3	586.9	587.6	587.5	586.7	585.8	585.0	584.1
175°	588.5	589.1	589.8	589.7	588.7	587.7	586.9	585.9
177.5°	588.7	589.3	589.8	589.7	589.1	588.3	587.7	587.0
180°	588.0	588.0	588.0	588.0	588.0	588.0	588.0	588.0

(END OF REPORT)