

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: P331715-840

Luminaire Tested: **SA2XXRDIP-C865D530U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331715-840  
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-C865D530U840-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 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**

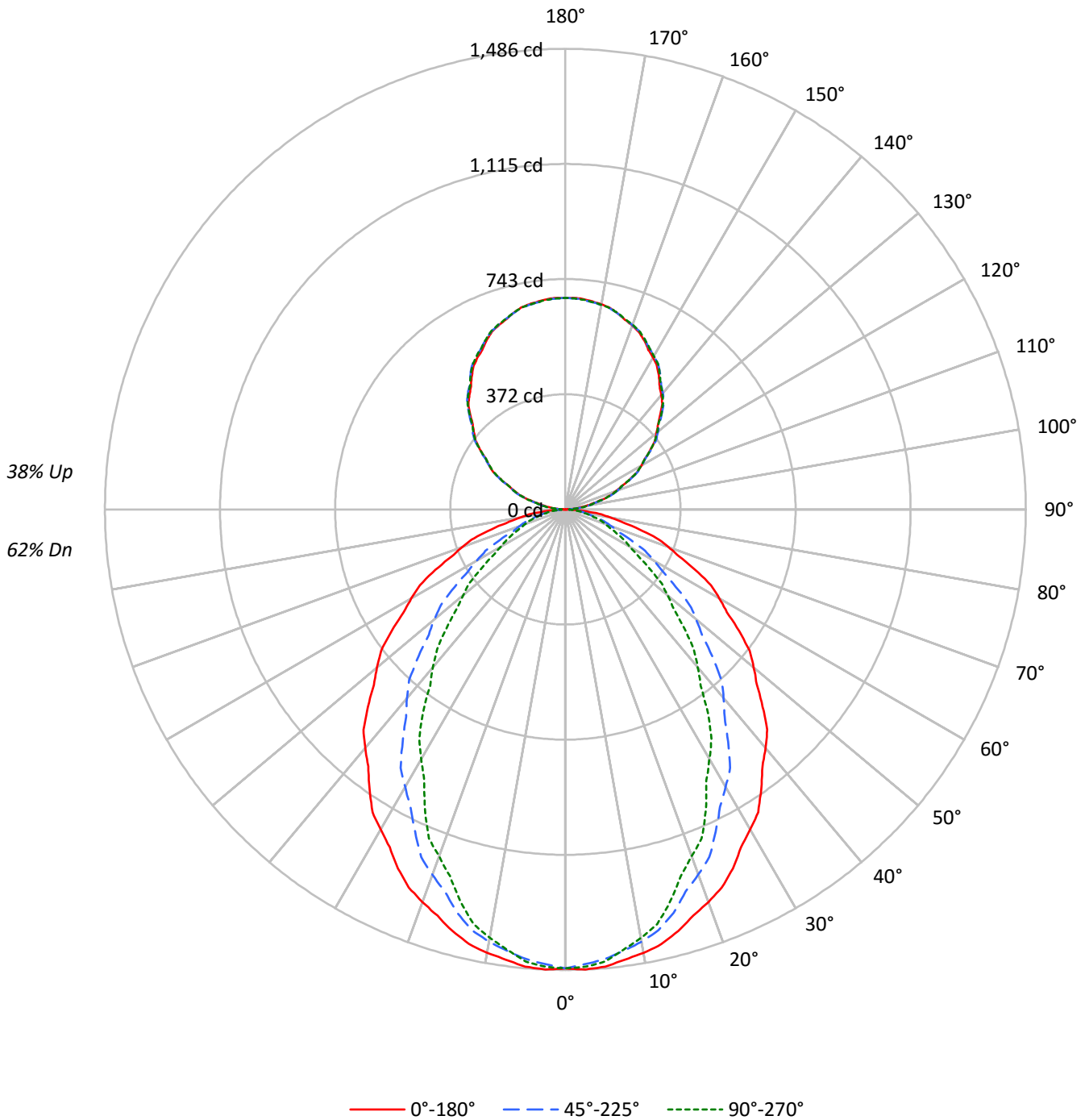
Lumens per Lamp: N/A  
Luminaire Lumens: 4956.3 lumens  
Efficiency: N/A  
Efficacy: 101.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62				
1	101	97	93	90	94	91	88	85	80	77	75	69	68	66	60	59	57	53				
2	92	85	79	74	86	80	75	70	70	66	63	62	59	56	53	51	49	45				
3	85	75	68	63	79	71	65	60	63	58	54	55	51	48	48	45	43	39				
4	78	67	59	54	73	63	56	51	56	51	46	49	45	42	43	40	37	34				
5	72	60	52	46	67	57	50	44	51	45	40	45	40	37	39	36	33	30				
6	66	54	46	41	62	51	44	39	46	40	36	41	36	32	36	32	29	27				
7	62	49	41	36	58	47	40	35	42	36	32	37	32	29	33	29	26	24				
8	57	45	37	32	54	43	36	31	38	33	28	34	30	26	30	27	24	22				
9	53	41	34	29	50	39	32	28	35	30	26	32	27	24	28	24	22	20				
10	50	38	31	26	47	36	30	25	33	27	23	29	25	22	26	22	20	18				

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

	0°	45°	90°
0°	23909	23909	23909
5°	24000	23608	23738
10°	23815	23222	23023
15°	23542	22534	21884
20°	23163	21551	20469
25°	22775	20436	19099
30°	22236	19287	17339
35°	21711	18039	15794
40°	21182	16750	14010
45°	20562	15299	12392
50°	19926	13835	10803
55°	19277	12262	9278
60°	18519	10601	7702
65°	17662	8909	7014
70°	16636	7336	6449
75°	15384	6687	6014
80°	13575	5979	5486
85°	10689	4705	4705



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.6	2.8
10°-20°	380.6	7.7
20°-30°	534.4	10.8
30°-40°	582.7	11.8
40°-50°	535.8	10.8
50°-60°	420.8	8.5
60°-70°	274.4	5.5
70°-80°	141.5	2.9
80°-90°	39.4	0.8
90°-100°	43.3	0.9
100°-110°	134.3	2.7
110°-120°	229.6	4.6
120°-130°	301.9	6.1
130°-140°	338.8	6.8
140°-150°	332.2	6.7
150°-160°	278.7	5.6
160°-170°	184.8	3.7
170°-180°	64.6	1.3
0°-30°	1053.6	21.3
0°-40°	1636.3	33.0
0°-60°	2593.0	52.3
0°-90°	3048.2	61.5
90°-120°	407.1	8.2
90°-150°	1380.1	27.8
90°-180°	1908.0	38.5
0°-180°	4956.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1481	1481	1481	1481	1481	
5°	1481	1473	1457	1468	1465	140
15°	1408	1392	1348	1323	1309	397
25°	1278	1233	1147	1094	1072	588
35°	1102	1030	915	834	801	689
45°	900	808	670	578	543	695
55°	685	578	436	358	330	612
65°	462	353	233	190	184	458
75°	247	155	107	98	96	261
85°	58	31	25	25	25	68
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°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1486.1	1484.9	1483.7	1482.5	1481.4	1479.5	1476.8	1474.2	1471.6	1468.9	1471.4
5°	1480.8	1479.3	1477.7	1476.2	1474.8	1472.1	1468.2	1464.4	1460.5	1456.6	1459.3
7.5°	1465.4	1463.6	1461.8	1460.0	1458.0	1454.9	1450.4	1445.8	1441.3	1436.7	1437.5
10°	1452.6	1450.5	1448.4	1446.3	1444.2	1440.3	1434.3	1428.4	1422.4	1416.4	1415.5
12.5°	1436.5	1433.9	1431.4	1428.9	1426.2	1421.2	1413.5	1405.9	1398.3	1390.7	1389.1
15°	1408.4	1405.1	1401.8	1398.6	1395.2	1388.6	1378.5	1368.4	1358.2	1348.1	1342.4
17.5°	1373.8	1368.8	1363.8	1358.8	1353.8	1344.8	1331.8	1318.8	1305.9	1292.8	1286.2
20°	1348.1	1342.1	1336.2	1330.2	1324.2	1313.8	1298.9	1284.0	1269.2	1254.3	1246.8
22.5°	1320.2	1313.5	1306.9	1300.2	1293.5	1281.8	1265.0	1248.2	1231.4	1214.6	1205.0
25°	1278.4	1268.9	1259.3	1249.8	1240.3	1225.7	1206.0	1186.4	1166.7	1147.1	1134.9
27.5°	1228.0	1217.6	1207.3	1196.9	1186.6	1170.3	1148.1	1126.0	1103.8	1081.7	1067.4
30°	1192.7	1181.3	1170.0	1158.7	1147.4	1129.8	1106.0	1082.2	1058.3	1034.5	1019.4
32.5°	1158.3	1145.1	1131.9	1118.6	1105.4	1086.7	1062.4	1038.0	1013.8	989.5	972.2
35°	1101.5	1086.3	1071.2	1055.9	1040.8	1020.1	993.8	967.7	941.5	915.2	896.5
37.5°	1044.7	1028.0	1011.4	994.6	978.0	955.6	927.8	899.8	871.9	843.9	823.2
40°	1005.0	987.1	969.3	951.4	933.5	910.2	881.3	852.4	823.5	794.7	773.5
42.5°	964.3	945.4	926.7	907.9	889.0	864.6	834.9	805.0	775.2	745.3	723.5
45°	900.5	880.5	860.6	840.6	820.7	795.1	763.9	732.6	701.3	670.0	648.8
47.5°	838.3	817.2	796.1	774.9	753.8	727.0	694.8	662.5	630.2	597.9	576.9
50°	793.3	772.1	751.0	729.8	708.7	681.8	649.0	616.2	583.5	550.8	530.2
52.5°	749.3	727.2	705.2	683.1	661.0	633.9	601.9	569.8	537.8	505.7	485.8
55°	684.8	661.6	638.3	615.1	591.9	564.1	532.0	499.8	467.7	435.6	417.7
57.5°	618.5	594.7	570.9	547.0	523.3	495.9	464.9	434.0	403.1	372.2	355.9
60°	573.5	549.7	525.9	502.1	478.3	451.0	420.3	389.6	359.0	328.3	313.2
62.5°	529.6	505.7	481.9	458.1	434.2	407.8	378.5	349.3	320.0	290.7	276.3
65°	462.3	438.2	414.0	389.9	365.9	340.3	313.6	286.8	259.9	233.2	223.1
67.5°	397.5	373.5	349.6	325.6	301.6	277.6	253.6	229.4	205.3	181.2	176.5
70°	352.4	329.2	306.0	282.8	259.5	237.6	217.1	196.5	176.0	155.4	152.5
72.5°	309.5	287.3	265.0	242.8	220.5	201.1	184.6	168.0	151.6	135.1	132.6
75°	246.6	225.7	204.9	184.0	163.2	147.7	137.5	127.4	117.3	107.2	105.1
77.5°	184.7	166.3	148.0	129.8	111.5	100.0	95.0	90.2	85.3	80.4	79.2
80°	146.0	130.9	115.7	100.5	85.3	76.2	73.2	70.3	67.3	64.3	63.1
82.5°	110.7	98.9	86.9	75.1	63.3	56.4	54.3	52.3	50.3	48.3	47.6
85°	57.7	51.4	45.1	38.9	32.6	29.1	28.2	27.3	26.4	25.4	25.4
87.5°	17.3	15.7	14.0	12.4	10.9	10.4	10.9	11.5	12.0	12.6	12.3
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°	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8	1480.8
2.5°	1473.7	1476.1	1478.4	1479.5	1478.9	1478.4	1478.0	1477.5
5°	1462.0	1464.6	1467.3	1468.2	1467.3	1466.4	1465.5	1464.6
7.5°	1438.4	1439.1	1439.9	1439.5	1437.9	1436.4	1434.8	1433.3
10°	1414.6	1413.7	1412.8	1411.5	1409.7	1408.0	1406.1	1404.3
12.5°	1387.5	1385.8	1384.2	1382.0	1379.0	1376.0	1373.0	1370.1
15°	1336.8	1331.1	1325.4	1321.1	1318.2	1315.1	1312.2	1309.2
17.5°	1279.4	1272.6	1266.0	1260.0	1254.9	1249.8	1244.7	1239.5
20°	1239.4	1231.9	1224.5	1217.5	1210.9	1204.4	1197.8	1191.3
22.5°	1195.5	1185.9	1176.3	1169.0	1164.2	1159.2	1154.4	1149.5
25°	1122.7	1110.4	1098.2	1089.8	1085.4	1081.0	1076.5	1072.1
27.5°	1053.2	1038.9	1024.7	1014.1	1007.0	999.9	992.8	985.7
30°	1004.1	989.0	973.7	962.1	954.1	946.0	938.1	930.0
32.5°	954.8	937.5	920.2	907.7	900.2	892.6	885.0	877.5
35°	877.7	859.0	840.2	827.6	821.0	814.5	807.9	801.3
37.5°	802.6	781.9	761.3	747.2	739.7	732.2	724.7	717.2
40°	752.3	731.2	710.0	695.6	687.9	680.1	672.4	664.7
42.5°	701.7	679.7	657.9	643.2	635.7	628.2	620.7	613.2
45°	627.7	606.6	585.4	571.3	564.1	557.0	549.9	542.7
47.5°	555.8	534.8	513.8	500.1	493.6	487.1	480.6	474.1
50°	509.7	489.1	468.6	455.1	448.9	442.6	436.4	430.1
52.5°	466.1	446.3	426.4	413.6	407.8	402.0	396.3	390.5
55°	399.8	381.9	364.1	352.2	346.6	340.9	335.3	329.6
57.5°	339.5	323.2	306.8	296.2	291.4	286.6	281.9	277.1
60°	297.9	282.8	267.5	257.6	252.8	248.0	243.3	238.5
62.5°	261.9	247.4	232.9	224.2	221.4	218.5	215.6	212.8
65°	212.9	202.8	192.7	187.1	186.2	185.4	184.5	183.6
67.5°	171.9	167.2	162.6	159.8	158.9	157.8	156.9	156.0
70°	149.5	146.5	143.5	141.5	140.3	139.1	137.8	136.6
72.5°	130.1	127.5	125.0	123.5	122.7	122.0	121.3	120.6
75°	103.0	101.0	98.9	97.7	97.4	97.0	96.7	96.4
77.5°	78.1	76.9	75.6	74.8	74.3	73.8	73.4	72.9
80°	61.9	60.8	59.6	59.0	59.0	59.0	59.0	59.0
82.5°	46.9	46.0	45.3	45.0	45.0	45.0	45.0	45.0
85°	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
87.5°	12.0	11.7	11.4	11.3	11.3	11.4	11.4	11.4
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: P331715-840  
CATALOG NUMBER: SA2XXRDIP-C865D530U840-4F0-1E-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)