

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

Luminaire Tested: **SA2XXRDIP-C865D530U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331715
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-C865D530U835-4F0-1E-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

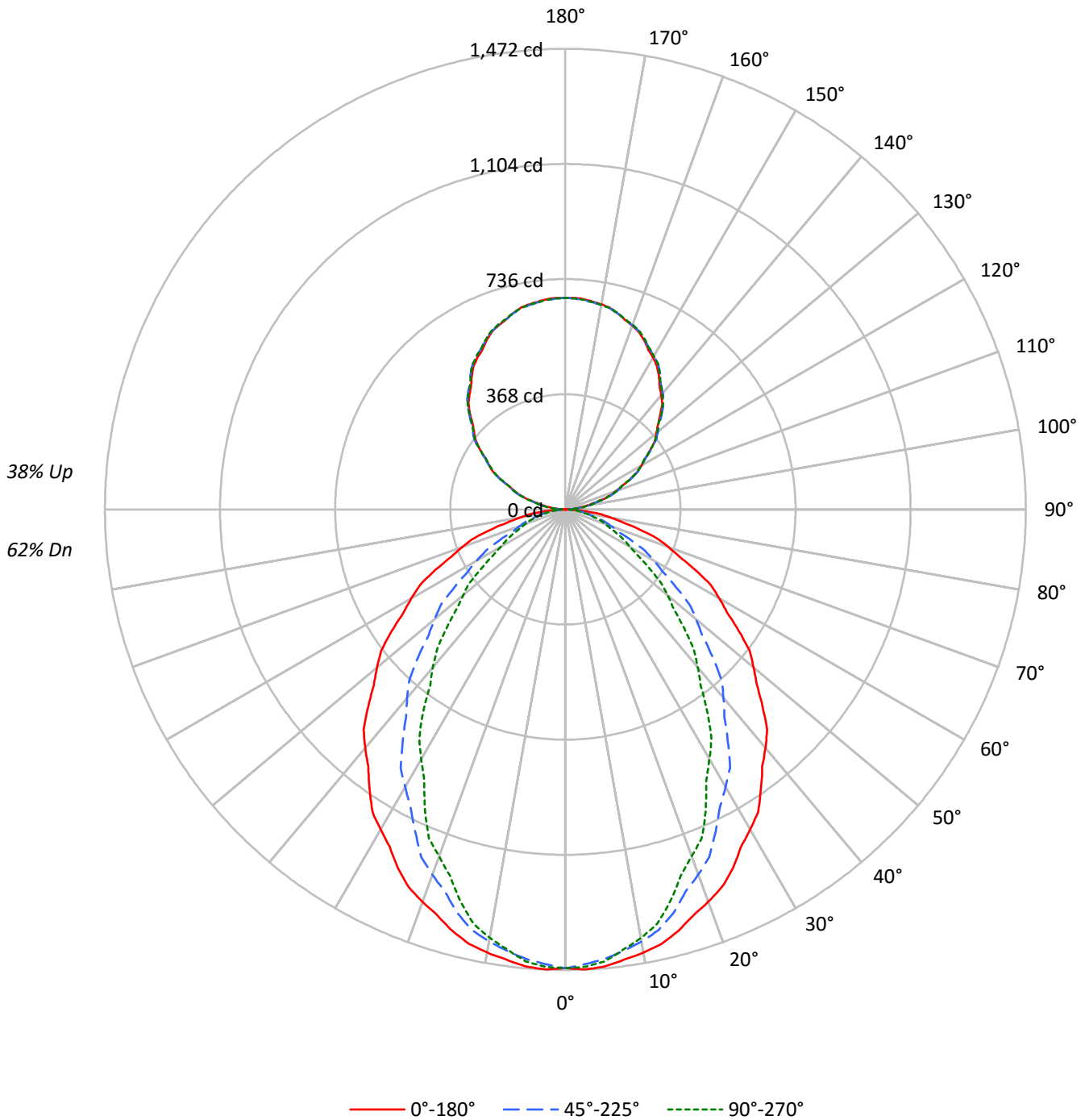
Lumens per Lamp: N/A
Luminaire Lumens: 4907.9 lumens
Efficiency: N/A
Efficacy: 100.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

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	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°	23675	23675	23675
5°	23765	23378	23506
10°	23582	22996	22799
15°	23311	22313	21670
20°	22936	21340	20270
25°	22552	20236	18912
30°	22018	19099	17169
35°	21498	17864	15640
40°	20976	16585	13873
45°	20361	15150	12271
50°	19733	13700	10698
55°	19088	12141	9188
60°	18338	10498	7627
65°	17490	8821	6946
70°	16475	7265	6387
75°	15234	6625	5958
80°	13445	5923	5430
85°	10578	4668	4668



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.2	2.8
10°-20°	376.8	7.7
20°-30°	529.2	10.8
30°-40°	577.1	11.8
40°-50°	530.6	10.8
50°-60°	416.7	8.5
60°-70°	271.7	5.5
70°-80°	140.1	2.9
80°-90°	39.0	0.8
90°-100°	42.8	0.9
100°-110°	133.0	2.7
110°-120°	227.3	4.6
120°-130°	298.9	6.1
130°-140°	335.5	6.8
140°-150°	329.0	6.7
150°-160°	275.9	5.6
160°-170°	183.0	3.7
170°-180°	64.0	1.3
0°-30°	1043.3	21.3
0°-40°	1620.3	33.0
0°-60°	2567.6	52.3
0°-90°	3018.4	61.5
90°-120°	403.1	8.2
90°-150°	1366.6	27.8
90°-180°	1889.0	38.5
0°-180°	4907.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1466	1466	1466	1466	1466	
5°	1466	1459	1442	1453	1450	139
15°	1395	1378	1335	1310	1296	393
25°	1266	1221	1136	1083	1062	582
35°	1091	1020	906	826	794	682
45°	892	800	664	573	537	688
55°	678	572	431	355	326	606
65°	458	350	231	188	182	454
75°	244	154	106	97	96	258
85°	57	31	25	25	25	67
90°	1	8	20	19	19	4
95°	30	35	36	36	35	34
105°	123	124	126	127	127	129
115°	228	231	230	230	228	226
125°	332	337	335	334	333	296
135°	429	435	437	436	434	332
145°	521	525	529	529	527	325
155°	596	598	599	602	600	274
165°	648	648	648	651	649	183
175°	675	673	672	675	672	64
180°	676	676	676	676	676	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3
2.5°	1471.6	1470.4	1469.2	1468.0	1466.9	1465.0	1462.4	1459.8	1457.2	1454.6	1457.0
5°	1466.3	1464.8	1463.3	1461.8	1460.4	1457.7	1453.9	1450.1	1446.2	1442.4	1445.0
7.5°	1451.1	1449.3	1447.5	1445.7	1443.8	1440.7	1436.2	1431.7	1427.2	1422.7	1423.5
10°	1438.4	1436.3	1434.3	1432.2	1430.1	1426.2	1420.3	1414.4	1408.5	1402.6	1401.7
12.5°	1422.5	1419.9	1417.4	1414.9	1412.3	1407.3	1399.7	1392.2	1384.6	1377.1	1375.5
15°	1394.6	1391.4	1388.1	1384.9	1381.6	1375.0	1365.0	1355.0	1344.9	1334.9	1329.3
17.5°	1360.4	1355.4	1350.5	1345.5	1340.6	1331.7	1318.8	1305.9	1293.1	1280.2	1273.6
20°	1334.9	1329.0	1323.1	1317.2	1311.3	1301.0	1286.2	1271.5	1256.8	1242.0	1234.6
22.5°	1307.3	1300.7	1294.1	1287.5	1280.9	1269.3	1252.6	1236.0	1219.4	1202.7	1193.2
25°	1265.9	1256.5	1247.0	1237.6	1228.2	1213.7	1194.2	1174.8	1155.3	1135.9	1123.8
27.5°	1216.0	1205.7	1195.5	1185.2	1175.0	1158.9	1136.9	1115.0	1093.0	1071.1	1057.0
30°	1181.0	1169.8	1158.6	1147.4	1136.2	1118.8	1095.2	1071.6	1048.0	1024.4	1009.4
32.5°	1147.0	1133.9	1120.8	1107.7	1094.6	1076.1	1052.0	1027.9	1003.9	979.8	962.7
35°	1090.7	1075.7	1060.7	1045.6	1030.6	1010.1	984.1	958.2	932.3	906.3	887.7
37.5°	1034.5	1018.0	1001.5	984.9	968.4	946.3	918.7	891.0	863.4	835.7	815.2
40°	995.2	977.5	959.8	942.1	924.4	901.3	872.7	844.1	815.5	786.9	765.9
42.5°	954.9	936.2	917.6	899.0	880.3	856.2	826.7	797.1	767.6	738.0	716.4
45°	891.7	871.9	852.2	832.4	812.7	787.3	756.4	725.4	694.4	663.5	642.5
47.5°	830.1	809.2	788.3	767.3	746.4	719.9	688.0	656.0	624.0	592.1	571.3
50°	785.6	764.6	743.7	722.7	701.8	675.1	642.7	610.2	577.8	545.4	525.0
52.5°	742.0	720.1	698.3	676.4	654.5	627.7	596.0	564.2	532.5	500.8	481.1
55°	678.1	655.1	632.1	609.1	586.1	558.6	526.8	494.9	463.1	431.3	413.6
57.5°	612.5	588.9	565.3	541.7	518.2	491.1	460.4	429.8	399.2	368.6	352.4
60°	567.9	544.3	520.8	497.2	473.6	446.6	416.2	385.8	355.5	325.1	310.1
62.5°	524.4	500.8	477.2	453.6	430.0	403.8	374.8	345.9	316.9	287.9	273.6
65°	457.8	433.9	410.0	386.1	362.3	337.0	310.5	284.0	257.4	230.9	220.9
67.5°	393.6	369.9	346.2	322.4	298.7	274.9	251.1	227.2	203.3	179.4	174.8
70°	349.0	326.0	303.0	280.0	257.0	235.3	215.0	194.6	174.3	153.9	151.0
72.5°	306.5	284.5	262.4	240.4	218.3	199.1	182.8	166.4	150.1	133.8	131.3
75°	244.2	223.5	202.9	182.2	161.6	146.3	136.2	126.2	116.2	106.2	104.1
77.5°	182.9	164.7	146.6	128.5	110.4	99.0	94.1	89.3	84.5	79.6	78.4
80°	144.6	129.6	114.6	99.5	84.5	75.5	72.5	69.6	66.6	63.7	62.5
82.5°	109.6	97.9	86.1	74.4	62.7	55.8	53.8	51.8	49.8	47.8	47.1
85°	57.1	50.9	44.7	38.5	32.3	28.8	27.9	27.0	26.1	25.2	25.2
87.5°	17.1	15.5	13.9	12.3	10.8	10.3	10.8	11.4	11.9	12.5	12.2
90°	0.6	2.1	3.6	5.1	6.7	8.8	11.6	14.4	17.2	20.0	19.7
92.5°	10.2	11.3	12.4	13.5	14.6	15.5	16.2	16.8	17.5	18.1	18.2
95°	29.7	30.9	32.2	33.5	34.7	35.5	35.7	36.0	36.2	36.5	36.5
97.5°	54.2	55.3	56.4	57.5	58.6	59.4	59.9	60.4	60.9	61.4	61.4
100°	72.4	73.4	74.4	75.5	76.5	77.2	77.6	77.9	78.3	78.7	78.7
102.5°	91.6	92.4	93.2	94.0	94.8	95.5	96.0	96.4	96.9	97.4	97.5
105°	122.6	123.0	123.4	123.7	124.1	124.4	124.7	124.9	125.2	125.5	125.7
107.5°	153.9	154.4	155.0	155.5	156.1	156.4	156.4	156.4	156.4	156.4	156.5
110°	173.9	174.7	175.4	176.2	177.0	177.3	177.3	177.3	177.3	177.3	177.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	195.8	196.6	197.3	198.1	198.9	199.2	199.1	199.0	198.9	198.8	198.5
115°	228.1	228.9	229.6	230.4	231.1	231.4	231.1	230.9	230.6	230.4	230.3
117.5°	260.3	261.3	262.3	263.3	264.3	264.5	263.8	263.0	262.3	261.6	261.3
120°	281.7	282.7	283.7	284.7	285.8	285.8	284.7	283.7	282.7	281.7	281.7
122.5°	301.3	302.5	303.8	305.0	306.2	306.4	305.7	305.0	304.3	303.6	303.3
125°	331.9	333.0	334.2	335.3	336.4	336.8	336.4	336.1	335.7	335.3	334.9
127.5°	361.6	363.1	364.5	366.0	367.4	367.9	367.5	367.0	366.6	366.1	365.6
130°	380.4	382.0	383.6	385.3	386.9	387.6	387.4	387.1	386.9	386.6	386.4
132.5°	401.3	402.7	404.0	405.4	406.7	407.4	407.5	407.5	407.6	407.6	407.1
135°	429.4	430.8	432.2	433.6	435.0	435.8	436.0	436.3	436.6	436.8	436.7
137.5°	458.9	460.1	461.2	462.4	463.5	464.2	464.6	464.9	465.2	465.5	465.4
140°	476.7	477.9	479.0	480.1	481.3	482.2	482.8	483.4	484.1	484.7	484.7
142.5°	495.0	496.1	497.3	498.4	499.5	500.3	500.8	501.2	501.6	502.0	502.1
145°	521.2	522.1	523.0	523.9	524.8	525.6	526.3	527.1	527.9	528.6	528.7
147.5°	544.6	545.6	546.7	547.8	548.8	549.6	550.1	550.6	551.1	551.7	551.9
150°	560.6	561.3	562.1	562.8	563.6	564.2	564.7	565.2	565.7	566.3	566.6
152.5°	574.7	575.5	576.2	577.0	577.7	578.4	579.0	579.6	580.2	580.9	581.3
155°	595.9	596.3	596.7	597.0	597.4	597.8	598.2	598.6	598.9	599.3	600.0
157.5°	614.0	614.3	614.5	614.8	615.1	615.3	615.5	615.8	616.0	616.2	617.1
160°	625.0	625.2	625.5	625.7	626.0	626.2	626.3	626.4	626.6	626.7	627.5
162.5°	635.0	635.1	635.1	635.2	635.2	635.3	635.4	635.6	635.7	635.8	636.7
165°	648.4	648.2	648.1	648.0	647.9	647.8	647.8	647.8	647.8	647.8	648.7
167.5°	659.5	659.2	658.8	658.4	658.0	657.8	657.8	657.8	657.7	657.7	658.6
170°	665.5	665.1	664.7	664.3	664.0	663.7	663.6	663.4	663.3	663.2	664.1
172.5°	669.6	669.2	668.8	668.4	668.1	667.8	667.7	667.6	667.4	667.3	668.2
175°	674.6	674.2	673.8	673.5	673.1	672.8	672.5	672.3	672.0	671.7	672.6
177.5°	676.7	676.3	676.0	675.7	675.4	675.2	675.0	674.8	674.6	674.4	675.0
180°	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3	1466.3
2.5°	1459.3	1461.7	1464.0	1465.0	1464.5	1464.0	1463.6	1463.1
5°	1447.7	1450.3	1453.0	1453.9	1453.0	1452.1	1451.2	1450.3
7.5°	1424.3	1425.0	1425.8	1425.4	1423.9	1422.4	1420.8	1419.3
10°	1400.8	1399.9	1399.0	1397.7	1395.9	1394.2	1392.4	1390.6
12.5°	1373.9	1372.3	1370.7	1368.5	1365.5	1362.6	1359.6	1356.7
15°	1323.7	1318.1	1312.5	1308.2	1305.3	1302.3	1299.4	1296.4
17.5°	1266.9	1260.2	1253.6	1247.7	1242.6	1237.6	1232.5	1227.4
20°	1227.3	1219.9	1212.5	1205.6	1199.1	1192.6	1186.1	1179.7
22.5°	1183.8	1174.3	1164.8	1157.6	1152.8	1147.9	1143.1	1138.3
25°	1111.7	1099.6	1087.5	1079.2	1074.8	1070.4	1066.0	1061.6
27.5°	1042.9	1028.8	1014.7	1004.2	997.2	990.1	983.1	976.1
30°	994.3	979.3	964.2	952.7	944.8	936.8	928.9	920.9
32.5°	945.5	928.3	911.2	898.8	891.4	883.9	876.4	868.9
35°	869.1	850.6	832.0	819.5	813.0	806.5	800.0	793.5
37.5°	794.8	774.3	753.9	739.9	732.5	725.0	717.6	710.2
40°	745.0	724.1	703.1	688.8	681.2	673.5	665.8	658.2
42.5°	694.8	673.1	651.5	636.9	629.5	622.1	614.6	607.2
45°	621.6	600.7	579.7	565.7	558.6	551.6	544.5	537.4
47.5°	550.4	529.6	508.8	495.2	488.8	482.3	475.9	469.5
50°	504.7	484.3	464.0	450.7	444.5	438.3	432.1	425.9
52.5°	461.5	441.9	422.2	409.6	403.8	398.1	392.4	386.7
55°	395.9	378.2	360.5	348.8	343.2	337.6	332.0	326.4
57.5°	336.2	320.0	303.8	293.3	288.6	283.8	279.1	274.4
60°	295.0	280.0	264.9	255.1	250.3	245.6	240.9	236.2
62.5°	259.3	245.0	230.6	222.0	219.2	216.4	213.5	210.7
65°	210.8	200.8	190.8	185.3	184.4	183.6	182.7	181.8
67.5°	170.2	165.6	161.0	158.2	157.3	156.3	155.4	154.5
70°	148.0	145.1	142.1	140.1	138.9	137.7	136.5	135.3
72.5°	128.8	126.3	123.8	122.3	121.5	120.8	120.1	119.4
75°	102.0	100.0	97.9	96.7	96.4	96.1	95.8	95.5
77.5°	77.3	76.1	74.9	74.1	73.6	73.1	72.7	72.2
80°	61.3	60.2	59.0	58.4	58.4	58.4	58.4	58.4
82.5°	46.4	45.6	44.9	44.6	44.6	44.6	44.6	44.6
85°	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2
87.5°	11.9	11.6	11.3	11.2	11.2	11.3	11.3	11.3
90°	19.5	19.2	18.9	18.9	19.0	19.1	19.3	19.4
92.5°	18.2	18.3	18.3	18.4	18.4	18.4	18.5	18.5
95°	36.5	36.5	36.5	36.4	36.1	35.9	35.6	35.4
97.5°	61.4	61.4	61.4	61.3	61.3	61.3	61.3	61.2
100°	78.7	78.7	78.7	78.6	78.5	78.4	78.3	78.1
102.5°	97.6	97.7	97.8	97.8	97.7	97.5	97.4	97.3
105°	126.0	126.2	126.5	126.6	126.6	126.6	126.6	126.6
107.5°	156.6	156.7	156.8	156.5	155.9	155.4	154.8	154.2
110°	177.3	177.3	177.3	177.2	176.8	176.4	176.0	175.6



TEST NUMBER: P331715

CATALOG NUMBER: SA2XXRDIP-C865D530U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	198.2	197.9	197.6	197.3	197.0	196.7	196.4	196.2
115°	230.1	230.0	229.9	229.6	229.2	228.9	228.5	228.1
117.5°	261.0	260.7	260.4	260.1	259.7	259.3	258.9	258.5
120°	281.7	281.7	281.7	281.5	281.1	280.8	280.4	280.0
122.5°	303.0	302.7	302.4	302.1	301.8	301.5	301.3	301.0
125°	334.5	334.2	333.8	333.5	333.4	333.3	333.1	333.0
127.5°	365.2	364.7	364.3	363.8	363.4	363.0	362.6	362.2
130°	386.1	385.9	385.6	385.2	384.7	384.2	383.7	383.2
132.5°	406.5	405.9	405.4	404.9	404.5	404.1	403.7	403.3
135°	436.6	436.4	436.3	436.0	435.7	435.3	434.9	434.5
137.5°	465.3	465.2	465.1	464.8	464.3	463.8	463.3	462.8
140°	484.7	484.7	484.7	484.5	483.9	483.4	482.9	482.4
142.5°	502.2	502.3	502.4	502.2	501.7	501.2	500.7	500.2
145°	528.9	529.0	529.1	528.9	528.4	527.9	527.4	526.9
147.5°	552.2	552.5	552.8	552.7	552.2	551.7	551.2	550.7
150°	567.0	567.4	567.8	567.8	567.4	567.0	566.6	566.3
152.5°	581.8	582.3	582.8	582.8	582.3	581.8	581.3	580.9
155°	600.6	601.2	601.9	602.0	601.6	601.2	600.8	600.5
157.5°	617.9	618.8	619.7	619.8	619.2	618.6	618.0	617.3
160°	628.2	629.0	629.7	629.9	629.4	628.9	628.3	627.8
162.5°	637.5	638.4	639.3	639.4	638.8	638.2	637.6	637.0
165°	649.6	650.5	651.3	651.5	650.8	650.2	649.6	648.9
167.5°	659.5	660.4	661.3	661.4	660.7	660.1	659.4	658.7
170°	665.0	665.9	666.7	666.8	666.0	665.3	664.5	663.8
172.5°	669.1	670.0	670.8	670.9	670.2	669.4	668.6	667.9
175°	673.5	674.4	675.3	675.4	674.6	673.8	673.1	672.3
177.5°	675.6	676.2	676.8	676.8	676.2	675.6	675.0	674.4
180°	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7

(END OF REPORT)