

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

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

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331714
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-C865D530U835-4F0-1E-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

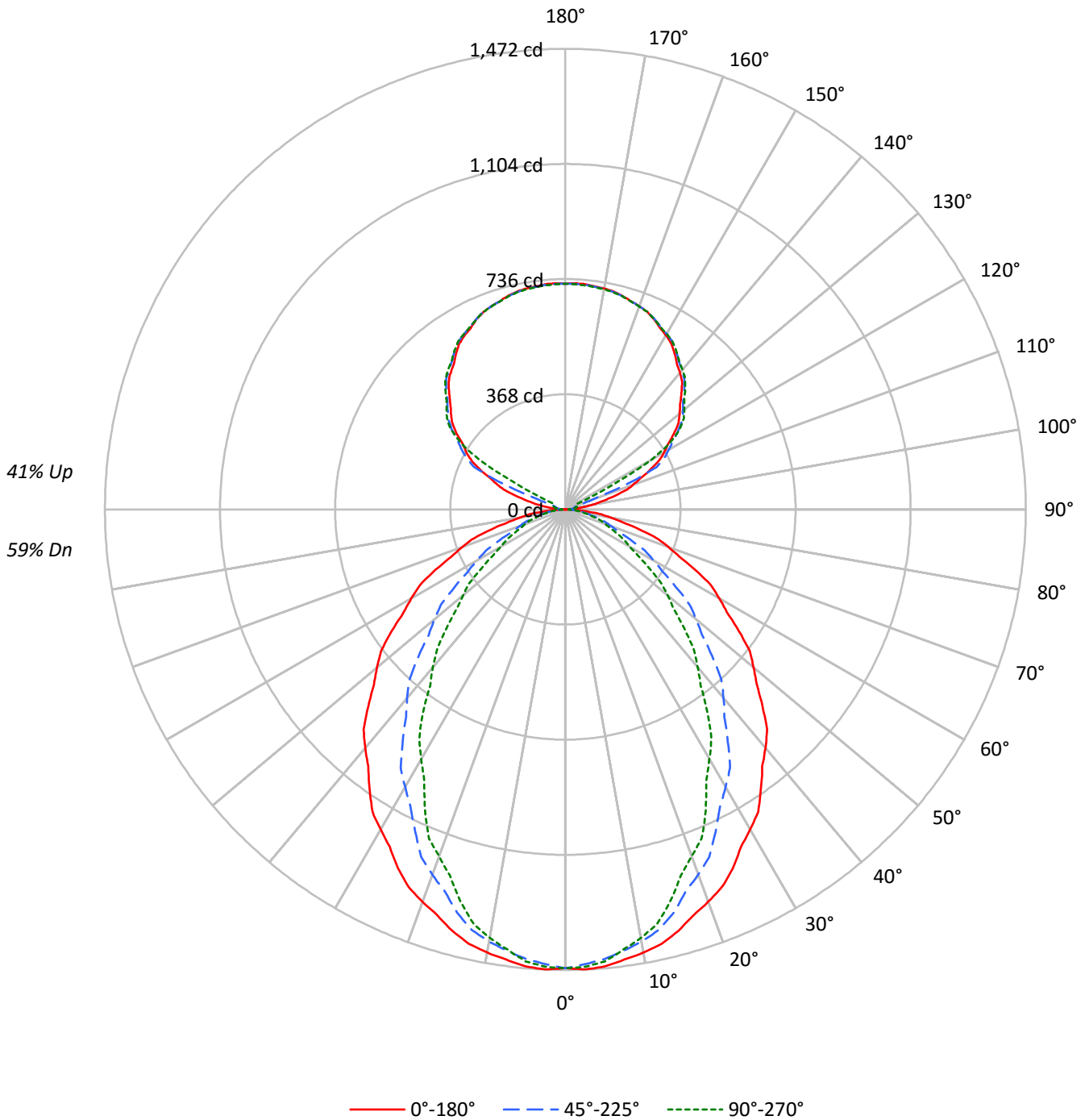
Lumens per Lamp: N/A
Luminaire Lumens: 5131.1 lumens
Efficiency: N/A
Efficacy: 105.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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

Luminous Intensity Polar Plot





TEST NUMBER: P331714

CATALOG NUMBER: SA2XXRDIP-C865D530U835-4F0-1E-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	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°	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



TEST NUMBER: P331714

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.2	2.7
10°-20°	376.8	7.3
20°-30°	529.2	10.3
30°-40°	577.1	11.2
40°-50°	530.6	10.3
50°-60°	416.7	8.1
60°-70°	271.7	5.3
70°-80°	140.1	2.7
80°-90°	38.1	0.7
90°-100°	24.1	0.5
100°-110°	88.2	1.7
110°-120°	235.8	4.6
120°-130°	389.3	7.6
130°-140°	414.0	8.1
140°-150°	384.8	7.5
150°-160°	309.4	6.0
160°-170°	199.4	3.9
170°-180°	68.6	1.3
0°-30°	1043.3	20.3
0°-40°	1620.3	31.6
0°-60°	2567.6	50.0
0°-90°	3017.5	58.8
90°-120°	348.1	6.8
90°-150°	1536.2	29.9
90°-180°	2114.0	41.2
0°-180°	5131.1	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°	0	6	10	13	14	4
95°	34	18	20	23	22	41
105°	159	166	32	37	40	170
115°	300	309	322	92	43	295
125°	424	431	441	444	446	378
135°	525	533	538	543	542	405
145°	609	609	617	621	618	381
155°	671	666	672	675	671	309
165°	707	704	705	708	705	200
175°	723	719	720	723	719	69
180°	721	721	721	721	721	



TEST NUMBER: P331714

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

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	13.8	12.2	10.6	9.8	10.0	10.2	10.4	10.6	10.5
90°	0.5	1.8	3.1	4.3	5.6	6.7	7.7	8.6	9.5	10.4	11.0
92.5°	10.5	10.4	10.3	10.2	10.1	10.3	10.7	11.2	11.6	12.1	12.4
95°	33.9	30.1	26.3	22.4	18.6	17.1	17.9	18.7	19.5	20.4	20.9
97.5°	67.3	56.5	45.8	35.0	24.2	19.7	21.6	23.5	25.4	27.2	27.7
100°	92.4	76.5	60.6	44.7	28.8	21.9	23.8	25.8	27.8	29.7	30.7
102.5°	119.9	116.6	113.2	109.8	106.5	96.5	80.1	63.6	47.1	30.6	31.8
105°	158.6	162.1	165.6	169.1	172.6	158.5	126.8	95.2	63.5	31.8	33.1
107.5°	202.8	205.6	208.4	211.2	214.0	196.4	158.5	120.5	82.5	44.6	43.3
110°	231.2	233.6	236.1	238.5	240.9	225.4	191.9	158.4	124.8	91.3	79.7



TEST NUMBER: P331714

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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	257.9	260.1	262.2	264.4	266.5	263.5	255.2	246.9	238.6	230.4	188.0
115°	300.1	302.0	304.0	306.0	308.0	310.4	313.3	316.2	319.1	322.0	268.3
117.5°	337.8	340.0	342.2	344.4	346.6	348.7	350.7	352.7	354.7	356.6	343.7
120°	365.3	367.0	368.8	370.5	372.3	374.2	376.3	378.4	380.4	382.5	383.9
122.5°	388.7	390.5	392.4	394.2	396.0	398.1	400.3	402.6	404.9	407.2	408.0
125°	424.3	425.8	427.3	428.8	430.3	432.2	434.4	436.6	438.8	441.0	441.8
127.5°	456.5	458.2	459.9	461.5	463.2	464.9	466.5	468.2	469.8	471.5	472.6
130°	477.0	478.8	480.7	482.6	484.4	486.0	487.3	488.5	489.8	491.1	492.4
132.5°	497.9	499.4	501.0	502.6	504.2	505.6	506.9	508.2	509.4	510.7	511.8
135°	525.0	526.9	528.7	530.6	532.4	533.9	534.9	536.0	537.0	538.0	539.2
137.5°	552.5	553.7	555.0	556.3	557.6	558.9	560.1	561.3	562.4	563.6	564.8
140°	570.4	571.3	572.3	573.2	574.1	575.2	576.5	577.8	579.0	580.3	581.4
142.5°	585.4	586.3	587.1	587.9	588.8	589.9	591.4	592.8	594.3	595.8	596.7
145°	609.0	608.9	608.8	608.7	608.6	609.5	611.5	613.4	615.4	617.4	618.2
147.5°	629.6	629.1	628.7	628.3	627.8	628.6	630.5	632.5	634.4	636.4	637.0
150°	642.9	642.1	641.3	640.5	639.7	640.2	642.1	643.9	645.8	647.6	648.3
152.5°	654.2	653.3	652.4	651.5	650.6	651.0	652.8	654.6	656.3	658.1	658.8
155°	670.6	669.6	668.5	667.5	666.4	666.6	668.0	669.4	670.8	672.2	672.9
157.5°	683.4	682.6	681.7	680.8	679.9	680.0	680.9	681.9	682.9	683.9	684.6
160°	691.0	690.3	689.6	688.9	688.2	688.2	688.9	689.6	690.3	691.0	691.7
162.5°	697.6	696.9	696.2	695.5	694.9	694.8	695.4	696.0	696.6	697.2	698.0
165°	706.6	705.9	705.2	704.5	703.8	703.7	704.0	704.3	704.7	705.0	705.9
167.5°	713.3	712.6	711.9	711.2	710.5	710.3	710.6	711.0	711.3	711.6	712.4
170°	717.0	716.4	715.7	715.0	714.3	714.0	714.3	714.5	714.7	715.0	715.8
172.5°	719.6	718.9	718.2	717.5	716.8	716.5	716.8	717.0	717.2	717.5	718.3
175°	722.8	722.0	721.2	720.4	719.5	719.3	719.5	719.7	719.9	720.2	721.0
177.5°	723.3	722.7	722.0	721.4	720.7	720.4	720.5	720.6	720.7	720.8	721.5
180°	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2



TEST NUMBER: P331714

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

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°	10.3	10.2	10.1	10.1	10.1	10.2	10.2	10.2
90°	11.6	12.2	12.8	13.2	13.4	13.6	13.9	14.1
92.5°	12.7	13.0	13.3	13.5	13.7	13.8	14.0	14.1
95°	21.5	22.1	22.7	22.9	22.8	22.7	22.6	22.4
97.5°	28.2	28.6	29.1	29.4	29.5	29.7	29.8	30.0
100°	31.6	32.5	33.5	34.0	34.3	34.5	34.7	35.0
102.5°	33.0	34.2	35.4	36.2	36.5	36.8	37.1	37.5
105°	34.4	35.7	36.9	37.8	38.3	38.7	39.2	39.7
107.5°	42.0	40.7	39.4	39.0	39.4	39.9	40.3	40.8
110°	68.1	56.5	44.9	39.4	39.8	40.3	40.8	41.2



TEST NUMBER: P331714

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	145.7	103.4	61.1	40.2	40.5	40.9	41.3	41.6
115°	214.6	160.9	107.2	76.2	67.8	59.5	51.1	42.8
117.5°	330.7	317.7	304.7	284.5	257.0	229.6	202.2	174.7
120°	385.3	386.7	388.1	381.0	365.3	349.7	334.0	318.3
122.5°	408.8	409.7	410.5	409.4	406.4	403.3	400.3	397.2
125°	442.6	443.4	444.2	444.8	445.2	445.5	445.9	446.2
127.5°	473.8	475.0	476.2	476.8	476.9	477.0	477.0	477.1
130°	493.6	494.9	496.2	496.8	496.6	496.5	496.4	496.3
132.5°	512.9	514.0	515.1	515.5	515.4	515.3	515.2	515.1
135°	540.4	541.5	542.7	543.2	542.9	542.7	542.5	542.2
137.5°	565.9	567.0	568.2	568.5	568.1	567.7	567.4	567.0
140°	582.4	583.4	584.5	584.7	584.1	583.6	583.0	582.4
142.5°	597.7	598.6	599.6	599.8	599.2	598.6	598.0	597.4
145°	619.0	619.8	620.6	620.7	620.2	619.6	619.0	618.4
147.5°	637.6	638.2	638.8	638.8	638.4	637.9	637.4	636.9
150°	649.0	649.7	650.4	650.5	649.9	649.3	648.7	648.2
152.5°	659.5	660.2	660.9	660.8	660.1	659.3	658.5	657.8
155°	673.6	674.3	675.0	674.8	673.9	673.0	672.1	671.1
157.5°	685.4	686.2	687.0	687.0	686.0	685.1	684.2	683.3
160°	692.3	693.0	693.7	693.7	692.9	692.1	691.2	690.4
162.5°	698.8	699.6	700.4	700.3	699.3	698.3	697.3	696.3
165°	706.7	707.5	708.3	708.3	707.5	706.7	705.9	705.0
167.5°	713.2	714.1	714.9	714.8	713.7	712.7	711.6	710.6
170°	716.6	717.4	718.2	718.1	717.0	716.0	715.0	713.9
172.5°	719.1	719.9	720.7	720.6	719.6	718.5	717.5	716.4
175°	721.8	722.6	723.4	723.3	722.1	720.9	719.8	718.6
177.5°	722.1	722.8	723.4	723.3	722.5	721.6	720.8	720.0
180°	721.2	721.2	721.2	721.2	721.2	721.2	721.2	721.2

(END OF REPORT)