

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: P331722

Luminaire Tested: **SA2XXRDIP-C865D725U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331722
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-C865D725U835-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

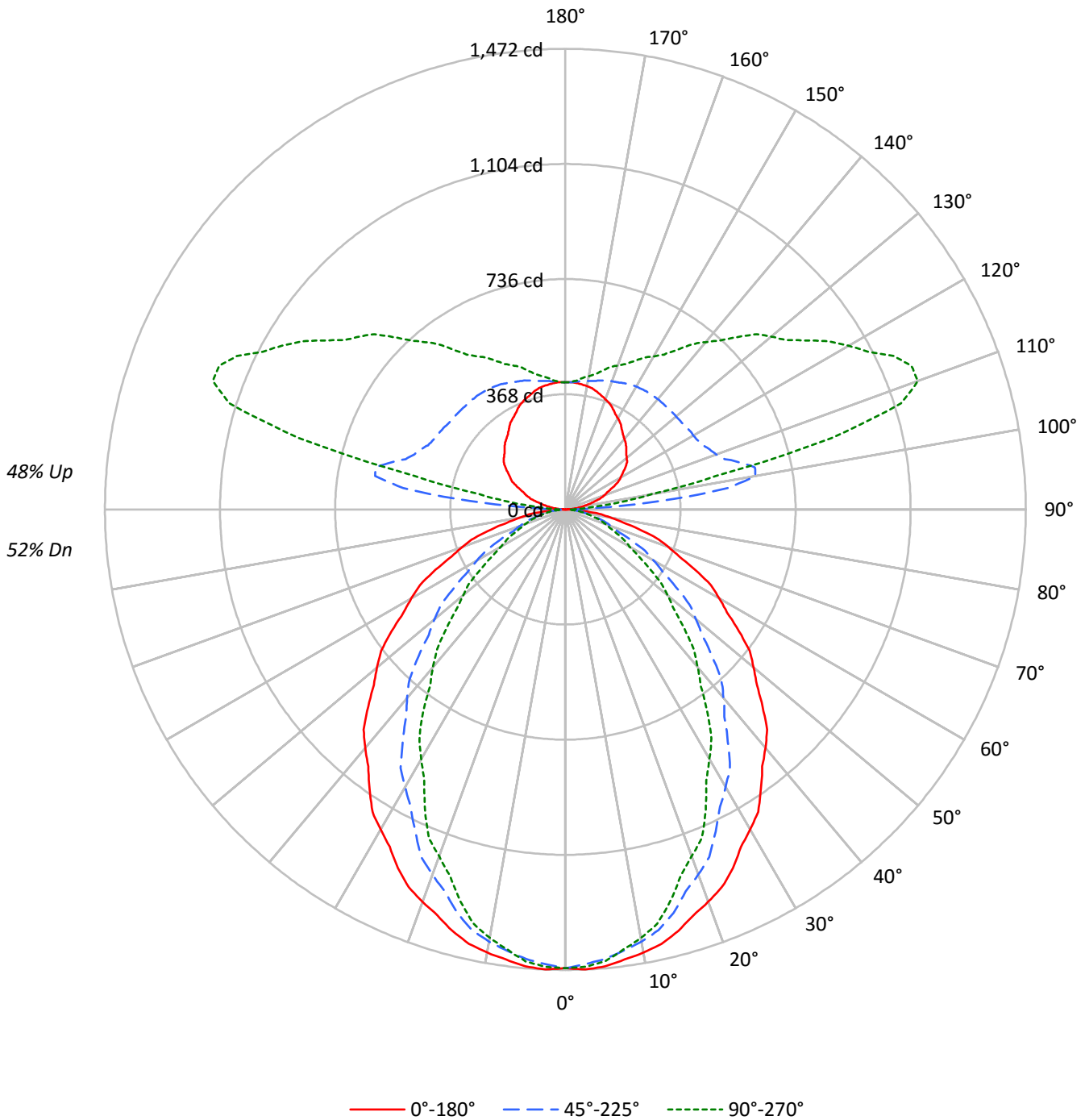
Lumens per Lamp: N/A
Luminaire Lumens: 5848.0 lumens
Efficiency: N/A
Efficacy: 107.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 54.4
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	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52				
1	99	94	91	87	91	88	84	81	75	72	70	63	61	60	52	51	50	44				
2	90	83	77	72	83	77	72	68	66	62	59	56	53	51	46	44	43	38				
3	83	73	66	61	76	68	62	57	59	54	50	50	46	43	41	39	37	33				
4	76	65	58	52	70	61	54	49	52	47	43	45	41	38	37	34	32	29				
5	70	58	51	45	64	55	48	42	47	42	38	40	36	33	34	31	28	25				
6	64	53	45	39	60	49	42	37	43	37	33	37	32	29	31	28	25	22				
7	60	48	40	34	55	45	38	33	39	33	29	33	29	26	28	25	23	20				
8	56	43	36	31	51	41	34	29	36	30	26	31	26	23	26	23	20	18				
9	52	40	32	27	48	37	31	26	33	27	24	28	24	21	24	21	19	16				
10	48	37	30	25	45	34	28	24	30	25	21	26	22	19	22	19	17	15				

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	2.3
10°-20°	376.8	6.4
20°-30°	529.2	9.0
30°-40°	577.1	9.9
40°-50°	530.6	9.1
50°-60°	416.7	7.1
60°-70°	271.7	4.6
70°-80°	140.1	2.4
80°-90°	40.0	0.7
90°-100°	162.5	2.8
100°-110°	551.5	9.4
110°-120°	585.9	10.0
120°-130°	482.3	8.2
130°-140°	387.3	6.6
140°-150°	292.7	5.0
150°-160°	205.7	3.5
160°-170°	121.1	2.1
170°-180°	39.4	0.7
0°-30°	1043.3	17.8
0°-40°	1620.3	27.7
0°-60°	2567.6	43.9
0°-90°	3019.4	51.6
90°-120°	1300.0	22.2
90°-150°	2462.4	42.1
90°-180°	2829.0	48.4
0°-180°	5848.0	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	11	27	25	26	4
95°	27	67	306	116	89	29
105°	95	144	579	1035	881	101
115°	168	212	485	1000	1159	167
125°	234	278	466	810	940	208
135°	275	328	460	681	779	213
145°	314	361	458	569	622	197
155°	357	386	445	503	523	164
165°	389	401	426	452	459	110
175°	406	406	410	415	414	39
180°	406	406	406	406	406	



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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	15.7	14.5	12.9	11.3	10.8	11.6	12.7	13.7	13.8	13.4
90°	0.8	3.1	6.3	7.8	9.4	11.7	15.6	21.1	25.8	26.6	25.8
92.5°	9.5	13.8	19.4	22.8	28.1	35.5	53.2	78.0	100.2	101.6	85.8
95°	27.4	30.5	38.3	45.3	57.8	76.6	112.6	180.6	271.3	306.4	268.1
97.5°	44.6	48.8	57.1	67.7	82.1	103.3	148.5	243.3	394.0	523.1	548.8
100°	60.2	62.5	69.6	82.1	97.7	119.6	161.0	256.4	425.2	617.5	730.1
102.5°	74.6	76.3	83.3	95.8	112.1	134.0	172.3	257.0	413.4	620.7	797.6
105°	95.4	98.5	104.0	115.7	132.9	154.8	191.5	261.1	390.1	579.2	787.2
107.5°	117.9	120.4	125.7	136.5	153.5	175.6	211.2	271.9	378.5	534.8	718.5
110°	132.9	136.0	140.7	150.9	167.3	190.0	224.3	280.6	376.0	513.6	675.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	146.6	149.8	155.1	164.6	180.4	203.7	236.9	290.0	376.6	499.8	645.4
115°	168.1	172.0	176.7	186.0	201.7	222.8	256.4	304.1	379.9	484.7	608.2
117.5°	190.3	193.4	198.1	206.4	221.4	243.3	274.4	319.1	385.5	477.3	584.7
120°	204.0	207.2	211.8	218.9	234.5	256.4	286.9	329.1	389.3	472.9	572.2
122.5°	217.2	219.7	224.3	232.0	247.6	270.2	298.8	337.9	393.7	470.4	561.6
125°	234.5	236.9	241.5	250.9	266.6	288.4	316.6	351.8	400.2	465.9	546.4
127.5°	248.3	251.4	258.0	268.3	283.3	305.8	333.2	364.7	407.0	463.2	532.3
130°	256.4	259.5	267.3	278.3	293.9	315.8	343.2	372.9	412.0	462.0	523.0
132.5°	263.9	267.7	276.1	287.7	303.9	325.8	351.9	381.0	417.0	461.4	515.5
135°	275.2	278.3	287.7	299.4	317.4	339.3	364.3	391.6	422.9	460.4	505.0
137.5°	285.8	289.5	298.9	311.4	329.3	349.6	374.3	399.8	428.2	460.3	497.6
140°	293.9	297.0	306.4	318.9	336.1	356.5	379.9	404.1	430.7	459.6	493.3
142.5°	302.0	304.6	313.3	325.8	342.4	361.5	384.3	407.9	432.6	459.6	488.9
145°	314.2	317.4	325.2	336.9	352.5	369.7	390.9	412.7	434.6	458.1	483.1
147.5°	327.4	329.7	337.2	348.0	361.0	376.3	396.2	415.4	435.3	455.3	477.2
150°	336.1	338.5	344.7	354.9	366.6	380.7	398.7	416.6	434.6	453.4	472.1
152.5°	344.9	346.0	352.2	361.1	372.2	385.1	401.2	417.3	433.4	450.3	467.8
155°	357.2	358.0	362.7	371.3	379.9	391.6	404.9	418.2	431.5	444.8	459.6
157.5°	367.6	368.3	372.1	379.6	386.5	396.3	407.6	418.2	427.9	439.2	452.0
160°	374.4	375.2	378.3	384.6	390.9	399.4	408.8	418.2	426.0	435.4	446.4
162.5°	381.3	380.8	384.0	389.0	394.6	401.3	409.5	417.6	424.2	432.3	441.3
165°	389.3	388.5	390.1	394.8	398.7	403.4	410.4	415.9	420.6	426.0	433.1
167.5°	395.9	394.9	396.3	399.3	402.1	405.1	410.2	414.8	417.0	420.6	424.9
170°	400.2	398.7	399.4	401.8	403.4	405.7	409.6	413.5	415.1	417.4	420.6
172.5°	402.7	401.8	401.3	403.7	404.6	406.3	409.0	411.6	412.6	413.7	416.2
175°	405.7	404.9	404.1	405.7	405.7	406.5	408.0	409.6	408.8	409.6	410.4
177.5°	407.1	405.9	405.2	406.5	406.5	406.5	407.1	408.4	407.1	406.5	407.1
180°	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5



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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°	13.0	12.5	12.6	12.6	12.6	12.6	12.6	12.6
90°	25.0	23.5	25.0	25.8	25.8	25.8	25.8	25.8
92.5°	68.2	58.5	51.9	47.1	46.4	43.9	44.6	43.3
95°	204.8	157.1	124.3	107.1	96.9	90.7	88.3	89.1
97.5°	477.9	391.0	306.4	250.0	212.6	193.4	182.0	175.4
100°	713.7	616.8	509.7	415.1	350.2	316.6	293.9	279.8
102.5°	868.2	846.3	767.9	667.7	597.2	539.8	511.5	492.5
105°	949.8	1038.1	1048.3	1022.5	974.0	925.5	891.9	881.0
107.5°	891.0	1024.0	1105.3	1143.2	1149.3	1146.6	1139.9	1125.3
110°	840.3	980.3	1080.3	1144.4	1178.0	1192.9	1199.9	1199.1



TEST NUMBER: P331722

CATALOG NUMBER: SA2XXRDIP-C865D725U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	794.1	928.3	1035.3	1108.8	1155.5	1180.4	1193.7	1197.9
115°	737.1	857.5	959.9	1040.4	1095.9	1131.9	1152.2	1159.3
117.5°	694.3	800.0	892.9	968.4	1025.0	1063.0	1084.4	1090.3
120°	673.0	770.0	852.8	924.0	978.7	1015.4	1038.1	1045.9
122.5°	656.2	745.0	823.4	887.7	936.8	972.9	993.1	999.6
125°	631.6	712.1	780.9	839.5	884.9	914.6	934.1	940.4
127.5°	607.4	680.2	745.1	799.2	838.8	866.6	883.5	888.5
130°	591.7	659.0	720.7	772.3	810.6	837.2	852.8	859.1
132.5°	576.7	639.0	695.7	744.2	781.9	808.4	822.8	828.4
135°	555.8	607.4	659.0	702.7	736.4	762.2	776.2	779.4
137.5°	539.1	582.2	623.2	661.3	692.0	714.2	726.5	731.2
140°	528.4	566.0	601.9	636.3	661.3	681.6	693.4	698.1
142.5°	519.7	551.6	582.5	611.3	635.1	653.5	664.0	664.9
145°	507.3	533.1	557.4	580.0	598.8	612.1	619.9	622.2
147.5°	497.8	518.1	537.0	553.6	569.1	579.7	585.0	586.4
150°	490.9	508.1	524.5	538.6	550.3	559.7	564.4	565.2
152.5°	484.0	500.0	513.9	526.1	535.3	543.4	546.9	547.0
155°	474.5	487.0	498.7	507.3	515.9	521.4	524.5	523.0
157.5°	463.4	473.9	483.7	490.4	496.5	501.1	502.5	502.5
160°	456.5	465.1	473.7	479.2	484.7	488.6	489.3	489.3
162.5°	449.6	457.0	464.3	468.6	474.0	476.7	477.5	476.8
165°	439.3	444.8	450.3	453.4	456.5	459.6	459.6	458.9
167.5°	429.5	433.7	437.4	440.3	441.7	443.4	443.2	442.3
170°	424.5	426.8	429.9	431.5	432.3	434.6	433.8	432.3
172.5°	418.8	420.6	423.1	424.0	424.8	425.9	425.1	424.2
175°	412.7	413.5	414.3	415.1	415.1	415.9	415.1	413.5
177.5°	408.4	408.4	409.0	409.0	409.0	409.0	408.4	407.1
180°	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5

(END OF REPORT)