

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: P331739

Luminaire Tested: **SA2XXRDIP-C1005D330U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331739
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-C1005D330U835-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4655.3 lumens
Efficiency: N/A
Efficacy: 93.5 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: Semi-Direct

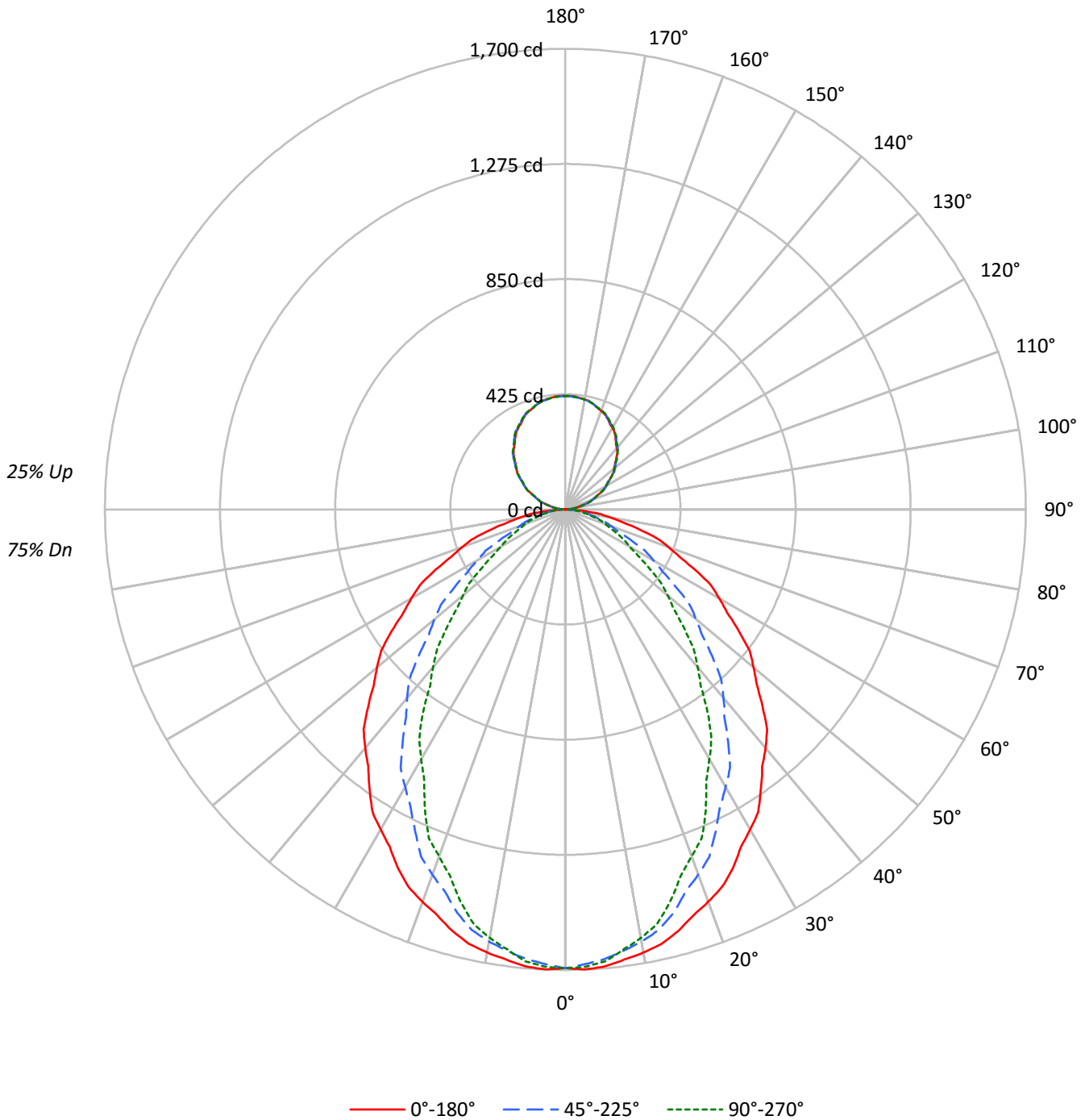
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	113	113	113	108	108	108	108	97	97	97	88	88	88	79	79	79	75
1	104	100	96	93	99	95	92	89	86	84	81	78	76	75	71	69	68	64
2	95	88	82	77	91	84	79	74	77	72	69	70	66	63	63	61	58	55
3	88	78	71	65	83	75	68	63	68	63	59	62	58	55	57	53	51	48
4	81	70	62	56	76	67	60	54	61	55	51	56	51	47	51	47	44	41
5	74	63	55	49	71	60	53	47	55	49	44	51	46	42	47	42	39	36
6	69	57	49	43	65	54	47	42	50	44	39	46	41	37	43	38	35	32
7	64	52	44	38	61	50	42	37	46	40	35	42	37	33	39	35	31	29
8	60	47	39	34	57	45	38	33	42	36	32	39	34	30	36	32	28	26
9	56	43	36	31	53	42	35	30	39	33	29	36	31	27	33	29	26	24
10	52	40	33	28	50	39	32	27	36	30	26	34	28	25	31	27	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	27341	27341	27341
5°	27446	27000	27149
10°	27237	26558	26332
15°	26924	25770	25028
20°	26490	24646	23409
25°	26045	23370	21841
30°	25430	22057	19829
35°	24829	20631	18065
40°	24226	19155	16021
45°	23516	17497	14173
50°	22790	15822	12356
55°	22044	14021	10612
60°	21180	12126	8809
65°	20199	10189	8023
70°	19029	8393	7378
75°	17592	7648	6881
80°	15528	6843	6267
85°	12208	5391	5391



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.5	3.4
10°-20°	435.2	9.3
20°-30°	611.2	13.1
30°-40°	666.5	14.3
40°-50°	612.8	13.2
50°-60°	481.3	10.3
60°-70°	313.8	6.7
70°-80°	161.8	3.5
80°-90°	43.6	0.9
90°-100°	26.5	0.6
100°-110°	82.4	1.8
110°-120°	140.8	3.0
120°-130°	185.2	4.0
130°-140°	207.9	4.5
140°-150°	203.8	4.4
150°-160°	171.0	3.7
160°-170°	113.4	2.4
170°-180°	39.6	0.9
0°-30°	1204.9	25.9
0°-40°	1871.4	40.2
0°-60°	2965.4	63.7
0°-90°	3484.7	74.9
90°-120°	249.8	5.4
90°-150°	846.7	18.2
90°-180°	1171.0	25.2
0°-180°	4655.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1693	1693	1693	1693	1693	
5°	1693	1685	1666	1679	1675	160
15°	1611	1592	1542	1513	1497	454
25°	1462	1410	1312	1251	1226	672
35°	1260	1178	1047	954	916	788
45°	1030	924	766	661	621	795
55°	783	661	498	410	377	700
65°	529	404	267	217	210	524
75°	282	178	123	112	110	298
85°	66	35	29	29	29	78
90°	0	5	12	12	12	4
95°	18	22	23	23	22	21
105°	76	77	78	78	78	80
115°	141	143	143	142	141	140
125°	206	209	208	207	206	184
135°	266	270	271	270	269	205
145°	323	325	328	328	326	202
155°	369	370	371	373	372	170
165°	402	401	401	404	402	113
175°	418	417	416	418	416	40
180°	419	419	419	419	419	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4
2.5°	1699.6	1698.2	1696.8	1695.5	1694.1	1691.9	1688.9	1686.0	1683.0	1680.0	1682.7
5°	1693.4	1691.7	1690.0	1688.3	1686.6	1683.6	1679.1	1674.7	1670.3	1665.9	1668.9
7.5°	1676.0	1673.9	1671.8	1669.6	1667.5	1663.9	1658.7	1653.5	1648.4	1643.2	1644.1
10°	1661.3	1658.9	1656.5	1654.1	1651.7	1647.1	1640.3	1633.5	1626.7	1619.9	1618.9
12.5°	1642.9	1639.9	1637.0	1634.1	1631.2	1625.3	1616.6	1607.9	1599.2	1590.5	1588.6
15°	1610.7	1606.9	1603.2	1599.4	1595.7	1588.0	1576.5	1564.9	1553.3	1541.7	1535.3
17.5°	1571.1	1565.4	1559.7	1554.0	1548.3	1538.0	1523.1	1508.3	1493.4	1478.6	1470.9
20°	1541.7	1534.9	1528.1	1521.3	1514.5	1502.6	1485.5	1468.5	1451.5	1434.4	1425.9
22.5°	1509.8	1502.2	1494.6	1487.0	1479.3	1465.9	1446.7	1427.5	1408.3	1389.1	1378.1
25°	1462.0	1451.1	1440.2	1429.3	1418.4	1401.8	1379.3	1356.8	1334.3	1311.8	1297.9
27.5°	1404.4	1392.6	1380.7	1368.9	1357.0	1338.4	1313.1	1287.7	1262.4	1237.1	1220.8
30°	1364.0	1351.0	1338.1	1325.1	1312.2	1292.1	1264.8	1237.6	1210.4	1183.1	1165.7
32.5°	1324.7	1309.6	1294.5	1279.4	1264.2	1242.8	1215.0	1187.2	1159.4	1131.6	1111.8
35°	1259.7	1242.4	1225.0	1207.6	1190.3	1166.6	1136.6	1106.7	1076.7	1046.7	1025.3
37.5°	1194.8	1175.7	1156.6	1137.5	1118.5	1093.0	1061.0	1029.1	997.1	965.2	941.6
40°	1149.4	1129.0	1108.5	1088.1	1067.7	1040.9	1007.9	974.9	941.8	908.8	884.6
42.5°	1102.8	1081.3	1059.8	1038.2	1016.7	988.9	954.8	920.6	886.5	852.4	827.4
45°	1029.9	1007.0	984.2	961.4	938.6	909.3	873.5	837.8	802.0	766.3	742.1
47.5°	958.7	934.6	910.4	886.2	862.0	831.5	794.6	757.6	720.7	683.8	659.8
50°	907.3	883.1	858.9	834.7	810.5	779.7	742.3	704.8	667.3	629.9	606.4
52.5°	857.0	831.7	806.5	781.2	755.9	725.0	688.3	651.7	615.0	578.4	555.7
55°	783.1	756.6	730.0	703.4	676.9	645.2	608.4	571.6	534.9	498.1	477.6
57.5°	707.4	680.2	652.9	625.7	598.4	567.1	531.8	496.4	461.1	425.7	407.0
60°	655.9	628.7	601.4	574.2	546.9	515.8	480.7	445.6	410.5	375.5	358.1
62.5°	605.7	578.4	551.2	523.9	496.7	466.3	432.9	399.4	366.0	332.6	316.0
65°	528.7	501.1	473.6	446.0	418.4	389.3	358.6	328.0	297.3	266.7	255.1
67.5°	454.5	427.2	399.8	372.4	345.0	317.5	290.0	262.4	234.8	207.2	201.9
70°	403.1	376.5	349.9	323.4	296.8	271.8	248.3	224.8	201.3	177.8	174.4
72.5°	354.0	328.5	303.1	277.6	252.1	229.9	211.1	192.2	173.3	154.5	151.6
75°	282.0	258.1	234.3	210.5	186.6	168.9	157.3	145.8	134.2	122.6	120.2
77.5°	211.2	190.3	169.4	148.5	127.5	114.3	108.7	103.1	97.5	92.0	90.6
80°	167.0	149.7	132.3	114.9	97.6	87.2	83.8	80.4	77.0	73.6	72.2
82.5°	126.6	113.0	99.5	85.9	72.4	64.4	62.1	59.8	57.5	55.2	54.4
85°	65.9	58.7	51.6	44.4	37.3	33.2	32.2	31.2	30.1	29.1	29.1
87.5°	19.7	17.7	15.7	13.7	11.7	10.9	11.2	11.6	11.9	12.3	12.0
90°	0.4	1.3	2.2	3.2	4.1	5.5	7.2	8.9	10.6	12.4	12.2
92.5°	6.3	7.0	7.7	8.4	9.1	9.6	10.0	10.4	10.8	11.2	11.3
95°	18.4	19.2	19.9	20.7	21.5	22.0	22.1	22.3	22.5	22.6	22.6
97.5°	33.6	34.3	34.9	35.6	36.3	36.8	37.1	37.4	37.7	38.0	38.0
100°	44.9	45.5	46.1	46.8	47.4	47.8	48.0	48.3	48.5	48.8	48.8
102.5°	56.7	57.2	57.7	58.2	58.7	59.2	59.4	59.7	60.0	60.3	60.4
105°	76.0	76.2	76.4	76.7	76.9	77.1	77.3	77.4	77.6	77.7	77.9
107.5°	95.3	95.7	96.0	96.4	96.7	96.9	96.9	96.9	96.9	96.9	96.9
110°	107.8	108.2	108.7	109.2	109.6	109.9	109.9	109.9	109.9	109.9	109.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	121.3	121.8	122.3	122.7	123.2	123.4	123.3	123.3	123.2	123.2	123.0
115°	141.3	141.8	142.3	142.7	143.2	143.4	143.2	143.0	142.9	142.7	142.7
117.5°	161.2	161.9	162.5	163.1	163.8	163.9	163.4	163.0	162.5	162.1	161.9
120°	174.5	175.2	175.8	176.4	177.0	177.0	176.4	175.8	175.2	174.5	174.5
122.5°	186.7	187.4	188.2	188.9	189.7	189.9	189.4	189.0	188.5	188.1	187.9
125°	205.6	206.3	207.0	207.7	208.4	208.7	208.4	208.2	208.0	207.7	207.5
127.5°	224.1	225.0	225.9	226.7	227.6	227.9	227.7	227.4	227.1	226.8	226.5
130°	235.7	236.7	237.7	238.7	239.7	240.2	240.0	239.9	239.7	239.5	239.4
132.5°	248.7	249.5	250.3	251.1	252.0	252.4	252.4	252.5	252.5	252.5	252.2
135°	266.0	266.9	267.8	268.6	269.5	270.0	270.2	270.3	270.5	270.6	270.5
137.5°	284.3	285.0	285.7	286.5	287.2	287.6	287.8	288.0	288.2	288.4	288.4
140°	295.4	296.1	296.8	297.5	298.2	298.7	299.1	299.5	299.9	300.3	300.3
142.5°	306.7	307.4	308.1	308.8	309.5	310.0	310.2	310.5	310.8	311.0	311.1
145°	322.9	323.5	324.0	324.6	325.1	325.6	326.1	326.6	327.0	327.5	327.6
147.5°	337.4	338.1	338.7	339.4	340.0	340.5	340.8	341.2	341.5	341.8	342.0
150°	347.3	347.8	348.2	348.7	349.2	349.6	349.9	350.2	350.5	350.8	351.1
152.5°	356.1	356.5	357.0	357.5	357.9	358.4	358.7	359.1	359.5	359.9	360.2
155°	369.2	369.4	369.7	369.9	370.1	370.4	370.6	370.8	371.1	371.3	371.7
157.5°	380.4	380.6	380.7	380.9	381.1	381.2	381.4	381.5	381.6	381.8	382.3
160°	387.2	387.4	387.5	387.7	387.8	388.0	388.0	388.1	388.2	388.3	388.7
162.5°	393.4	393.5	393.5	393.5	393.6	393.6	393.7	393.8	393.9	393.9	394.5
165°	401.7	401.6	401.5	401.5	401.4	401.3	401.3	401.3	401.3	401.3	401.9
167.5°	408.6	408.4	408.2	407.9	407.7	407.6	407.5	407.5	407.5	407.5	408.0
170°	412.3	412.1	411.8	411.6	411.4	411.2	411.1	411.0	411.0	410.9	411.4
172.5°	414.8	414.6	414.4	414.1	413.9	413.7	413.7	413.6	413.5	413.4	414.0
175°	418.0	417.7	417.5	417.2	417.0	416.8	416.7	416.5	416.3	416.2	416.7
177.5°	419.2	419.0	418.8	418.7	418.5	418.3	418.2	418.1	417.9	417.8	418.2
180°	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4
2.5°	1685.4	1688.1	1690.9	1691.9	1691.4	1690.9	1690.3	1689.8
5°	1672.0	1675.1	1678.1	1679.1	1678.1	1677.1	1676.1	1675.1
7.5°	1644.9	1645.8	1646.7	1646.3	1644.5	1642.7	1641.0	1639.2
10°	1617.8	1616.8	1615.8	1614.3	1612.2	1610.2	1608.1	1606.1
12.5°	1586.8	1584.9	1583.1	1580.5	1577.1	1573.7	1570.3	1566.9
15°	1528.8	1522.3	1515.8	1510.9	1507.5	1504.1	1500.7	1497.3
17.5°	1463.2	1455.5	1447.8	1441.0	1435.2	1429.3	1423.4	1417.6
20°	1417.4	1408.9	1400.4	1392.4	1384.9	1377.4	1369.9	1362.4
22.5°	1367.2	1356.2	1345.2	1336.9	1331.4	1325.8	1320.2	1314.6
25°	1283.9	1270.0	1256.0	1246.5	1241.3	1236.2	1231.1	1226.0
27.5°	1204.5	1188.2	1171.9	1159.7	1151.6	1143.5	1135.4	1127.3
30°	1148.4	1131.0	1113.6	1100.4	1091.2	1082.0	1072.8	1063.6
32.5°	1092.0	1072.2	1052.3	1038.1	1029.5	1020.8	1012.1	1003.5
35°	1003.8	982.4	960.9	946.4	938.9	931.4	923.9	916.5
37.5°	917.9	894.3	870.6	854.5	846.0	837.4	828.8	820.2
40°	860.4	836.2	812.1	795.6	786.7	777.8	769.0	760.1
42.5°	802.4	777.4	752.4	735.6	727.0	718.4	709.9	701.3
45°	717.9	693.7	669.5	653.4	645.2	637.0	628.8	620.7
47.5°	635.7	611.7	587.6	571.9	564.5	557.1	549.6	542.2
50°	582.9	559.4	535.9	520.5	513.4	506.2	499.1	491.9
52.5°	533.0	510.3	487.7	473.0	466.4	459.8	453.2	446.6
55°	457.2	436.8	416.3	402.9	396.4	389.9	383.5	377.0
57.5°	388.3	369.5	350.8	338.7	333.3	327.8	322.4	316.9
60°	340.7	323.4	306.0	294.6	289.1	283.7	278.2	272.8
62.5°	299.5	282.9	266.4	256.4	253.2	249.9	246.6	243.4
65°	243.5	231.9	220.3	214.0	213.0	212.0	211.0	210.0
67.5°	196.6	191.3	185.9	182.7	181.7	180.6	179.5	178.4
70°	171.0	167.6	164.2	161.8	160.4	159.0	157.7	156.3
72.5°	148.8	145.9	143.0	141.2	140.4	139.6	138.7	137.9
75°	117.8	115.5	113.1	111.7	111.4	111.0	110.7	110.3
77.5°	89.2	87.9	86.5	85.5	85.0	84.5	83.9	83.4
80°	70.8	69.5	68.1	67.4	67.4	67.4	67.4	67.4
82.5°	53.5	52.7	51.9	51.5	51.5	51.5	51.5	51.5
85°	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
87.5°	11.7	11.4	11.1	10.9	10.9	11.0	11.0	11.0
90°	12.1	11.9	11.7	11.7	11.8	11.9	11.9	12.0
92.5°	11.3	11.3	11.4	11.4	11.4	11.4	11.4	11.4
95°	22.6	22.6	22.6	22.5	22.4	22.2	22.1	21.9
97.5°	38.0	38.0	38.0	38.0	38.0	38.0	38.0	37.9
100°	48.8	48.8	48.8	48.7	48.6	48.6	48.5	48.4
102.5°	60.5	60.5	60.6	60.6	60.5	60.4	60.4	60.3
105°	78.0	78.2	78.4	78.4	78.4	78.4	78.4	78.4
107.5°	97.0	97.1	97.1	97.0	96.6	96.3	95.9	95.5
110°	109.9	109.9	109.9	109.8	109.5	109.3	109.1	108.8



TEST NUMBER: P331739

CATALOG NUMBER: SA2XXRDIP-C1005D330U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	122.8	122.6	122.4	122.2	122.1	121.9	121.7	121.5
115°	142.6	142.5	142.4	142.3	142.0	141.8	141.6	141.3
117.5°	161.7	161.5	161.3	161.1	160.9	160.7	160.4	160.2
120°	174.5	174.5	174.5	174.4	174.2	173.9	173.7	173.5
122.5°	187.7	187.5	187.3	187.2	187.0	186.8	186.6	186.5
125°	207.3	207.0	206.8	206.6	206.6	206.5	206.4	206.3
127.5°	226.3	226.0	225.7	225.4	225.2	224.9	224.7	224.4
130°	239.2	239.1	238.9	238.7	238.4	238.0	237.7	237.4
132.5°	251.8	251.5	251.2	250.9	250.6	250.4	250.1	249.9
135°	270.5	270.4	270.3	270.2	269.9	269.7	269.5	269.2
137.5°	288.3	288.2	288.2	288.0	287.7	287.4	287.1	286.7
140°	300.3	300.3	300.3	300.1	299.8	299.5	299.2	298.9
142.5°	311.2	311.2	311.3	311.2	310.9	310.5	310.2	309.9
145°	327.7	327.7	327.8	327.7	327.4	327.1	326.8	326.4
147.5°	342.1	342.3	342.5	342.4	342.1	341.8	341.5	341.2
150°	351.3	351.5	351.8	351.8	351.5	351.3	351.1	350.8
152.5°	360.5	360.8	361.1	361.1	360.8	360.5	360.2	359.9
155°	372.1	372.5	372.9	373.0	372.7	372.5	372.3	372.0
157.5°	382.8	383.4	383.9	384.0	383.6	383.2	382.9	382.5
160°	389.2	389.7	390.2	390.2	389.9	389.6	389.3	389.0
162.5°	395.0	395.5	396.1	396.1	395.8	395.4	395.0	394.6
165°	402.4	403.0	403.5	403.6	403.2	402.8	402.4	402.1
167.5°	408.6	409.1	409.7	409.8	409.4	408.9	408.5	408.1
170°	412.0	412.5	413.1	413.1	412.7	412.2	411.7	411.2
172.5°	414.5	415.1	415.6	415.7	415.2	414.7	414.3	413.8
175°	417.3	417.8	418.4	418.4	418.0	417.5	417.0	416.5
177.5°	418.6	418.9	419.3	419.3	418.9	418.6	418.2	417.8
180°	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7

(END OF REPORT)