

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: P331437-840

Luminaire Tested: **SA2XXDIP-C1005D530U840-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331437-840  
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: SA2XXDIP-C1005D530U840-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6181.6 lumens  
Efficiency: N/A  
Efficacy: 112.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

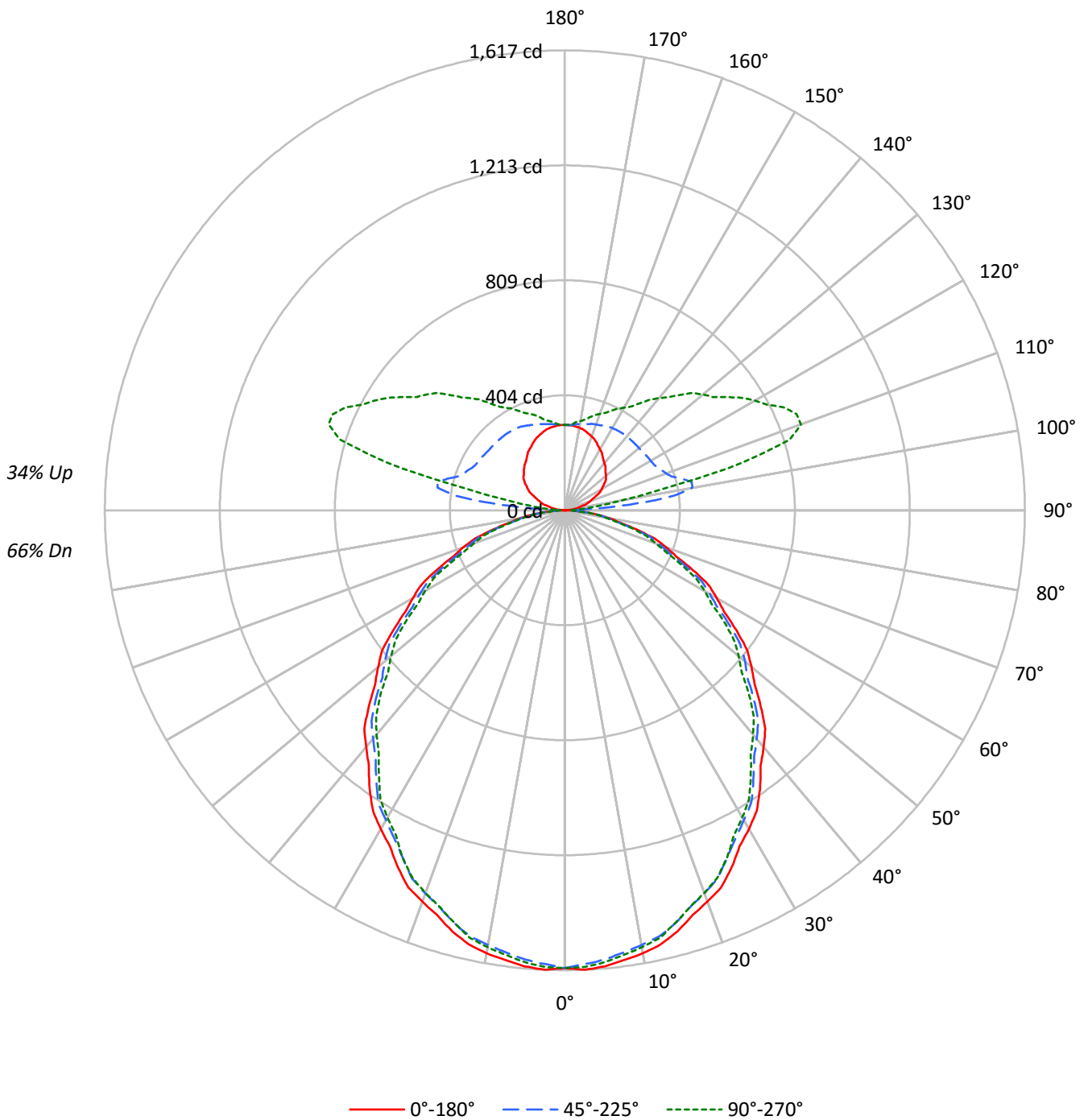
Input Watts (W): 55.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	111	111	111	105	105	105	105	92	92	92	81	81	81	71	71	71	66
1	101	97	93	89	95	91	88	85	81	78	76	72	70	68	63	61	60	56
2	92	85	78	73	87	80	74	70	71	67	63	63	60	57	55	53	51	47
3	84	75	67	61	79	70	64	58	63	57	53	56	51	48	49	46	43	40
4	77	66	58	52	72	63	55	50	56	50	45	50	45	41	44	40	37	34
5	71	59	51	44	67	56	48	43	50	44	39	45	40	36	40	36	32	30
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	36	32	29	26
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	33	29	25	23
8	56	44	36	30	53	42	34	29	38	31	27	34	29	25	30	26	23	21
9	53	40	32	27	49	38	31	26	34	28	24	31	26	22	28	24	21	19
10	49	37	29	24	46	35	28	24	32	26	22	29	24	20	26	22	19	17

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

	0°	45°	90°
0°	25987	25987	25987
5°	26086	25710	25861
10°	25932	25450	25576
15°	25611	25120	25095
20°	25156	24624	24598
25°	24704	24015	24015
30°	24121	23457	23256
35°	23580	22787	22450
40°	22898	22118	21692
45°	22229	21450	20922
50°	21499	20760	20022
55°	20738	19952	19212
60°	19888	18991	18290
65°	18980	18032	17207
70°	17825	16877	16074
75°	16220	15540	15159
80°	14393	13966	13240
85°	11745	11189	10022



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	151.3	2.4
10°-20°	425.9	6.9
20°-30°	626.0	10.1
30°-40°	727.1	11.8
40°-50°	726.3	11.7
50°-60°	633.4	10.2
60°-70°	468.3	7.6
70°-80°	265.3	4.3
80°-90°	74.0	1.2
90°-100°	119.7	1.9
100°-110°	406.3	6.6
110°-120°	431.7	7.0
120°-130°	355.4	5.7
130°-140°	285.4	4.6
140°-150°	215.7	3.5
150°-160°	151.6	2.5
160°-170°	89.2	1.4
170°-180°	29.0	0.5
0°-30°	1203.2	19.5
0°-40°	1930.3	31.2
0°-60°	3290.0	53.2
0°-90°	4097.6	66.3
90°-120°	957.8	15.5
90°-150°	1814.1	29.3
90°-180°	2084.0	33.7
0°-180°	6181.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1610	1610	1610	1610	1610	
5°	1610	1603	1586	1598	1596	153
15°	1532	1522	1503	1508	1501	431
25°	1387	1374	1348	1351	1348	638
35°	1196	1180	1156	1147	1139	747
45°	974	962	939	923	916	751
55°	737	727	709	691	682	658
65°	497	487	472	458	450	491
75°	260	257	249	241	243	278
85°	63	62	60	56	54	73
90°	1	8	20	19	19	4
95°	20	50	226	85	66	21
105°	70	106	427	763	649	75
115°	124	156	357	737	854	123
125°	173	204	343	597	693	153
135°	203	242	339	502	574	157
145°	232	266	338	419	458	145
155°	263	284	328	371	385	121
165°	287	295	314	333	338	81
175°	299	299	302	306	305	28
180°	299	299	299	299	299	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5
2.5°	1617.0	1615.6	1614.3	1612.9	1611.4	1609.3	1606.3	1603.3	1600.2	1597.2	1599.9
5°	1609.5	1608.2	1606.8	1605.4	1604.1	1601.4	1597.7	1593.9	1590.1	1586.3	1589.1
7.5°	1595.3	1593.2	1591.0	1588.9	1586.8	1583.8	1579.9	1576.1	1572.3	1568.4	1571.1
10°	1581.7	1579.3	1576.9	1574.5	1572.1	1568.8	1564.7	1560.5	1556.4	1552.3	1555.1
12.5°	1563.2	1560.9	1558.8	1556.7	1554.6	1551.5	1547.3	1543.2	1539.1	1535.0	1536.9
15°	1532.2	1530.1	1528.0	1526.0	1523.9	1520.7	1516.2	1511.7	1507.2	1502.8	1504.2
17.5°	1492.6	1490.5	1488.4	1486.3	1484.3	1481.0	1476.4	1471.9	1467.3	1462.9	1464.4
20°	1464.1	1462.0	1460.0	1457.8	1455.8	1452.4	1447.5	1442.8	1437.9	1433.1	1434.1
22.5°	1435.6	1432.7	1429.9	1426.9	1424.0	1420.4	1415.8	1411.3	1406.7	1402.2	1402.4
25°	1386.7	1383.9	1381.2	1378.5	1375.7	1371.4	1365.5	1359.7	1353.8	1348.0	1348.7
27.5°	1331.0	1328.5	1326.1	1323.5	1321.1	1317.6	1312.9	1308.3	1303.7	1299.1	1298.1
30°	1293.8	1291.1	1288.3	1285.6	1282.8	1278.9	1273.7	1268.6	1263.4	1258.2	1257.2
32.5°	1254.3	1252.0	1249.8	1247.6	1245.4	1241.6	1236.2	1230.7	1225.3	1219.8	1218.0
35°	1196.3	1192.9	1189.4	1186.0	1182.6	1178.1	1172.6	1167.1	1161.6	1156.1	1154.1
37.5°	1131.0	1128.0	1125.0	1122.0	1118.9	1114.7	1109.1	1103.7	1098.1	1092.7	1090.0
40°	1086.4	1083.7	1081.0	1078.2	1075.4	1071.4	1065.8	1060.4	1054.8	1049.4	1046.2
42.5°	1043.1	1040.4	1037.6	1034.9	1032.1	1027.9	1022.5	1016.9	1011.5	1005.9	1002.6
45°	973.5	971.1	968.7	966.2	963.8	960.1	954.9	949.8	944.6	939.4	935.6
47.5°	904.1	901.9	899.6	897.4	895.0	891.2	885.9	880.5	875.1	869.8	865.8
50°	855.9	854.1	852.4	850.7	849.0	845.7	840.9	836.1	831.2	826.5	821.6
52.5°	808.8	806.6	804.3	802.0	799.7	796.3	791.7	787.2	782.7	778.2	774.2
55°	736.7	734.6	732.6	730.5	728.4	725.3	721.2	717.1	713.0	708.8	704.7
57.5°	664.3	662.6	661.0	659.3	657.6	654.6	650.1	645.5	641.0	636.4	632.4
60°	615.9	614.6	613.2	611.9	610.5	607.3	602.6	597.7	592.9	588.1	584.3
62.5°	569.0	566.7	564.5	562.3	560.1	557.1	553.4	549.8	546.0	542.3	538.8
65°	496.8	494.7	492.7	490.6	488.6	485.7	482.3	478.9	475.4	472.0	469.0
67.5°	423.4	421.8	420.1	418.5	416.9	414.4	411.3	408.3	405.2	402.1	399.7
70°	377.6	376.3	374.9	373.5	372.1	369.9	366.8	363.7	360.6	357.5	355.1
72.5°	330.5	329.2	327.8	326.5	325.1	323.4	321.4	319.4	317.4	315.4	313.0
75°	260.0	259.3	258.6	257.9	257.2	256.0	254.3	252.6	250.9	249.1	247.1
77.5°	196.8	195.7	194.5	193.4	192.2	191.3	190.6	189.9	189.1	188.5	187.4
80°	154.8	154.4	154.1	153.7	153.4	152.9	152.2	151.5	150.8	150.2	149.1
82.5°	115.1	115.1	115.0	114.9	114.8	114.6	114.2	113.8	113.4	113.0	111.7
85°	63.4	63.1	62.8	62.4	62.1	61.7	61.4	61.0	60.7	60.4	59.3
87.5°	22.4	22.2	22.1	21.8	21.5	21.3	21.3	21.5	21.7	21.2	20.3
90°	0.6	2.3	4.6	5.8	6.9	8.7	11.5	15.6	19.0	19.6	19.0
92.5°	7.1	10.1	14.2	16.9	20.7	26.2	39.2	57.5	73.8	74.8	63.2
95°	20.2	22.4	28.2	33.4	42.6	56.5	82.9	133.0	199.9	225.8	197.5
97.5°	32.8	36.0	42.0	49.9	60.5	76.1	109.5	179.3	290.2	385.4	404.2
100°	44.3	46.0	51.3	60.5	72.0	88.2	118.7	188.9	313.3	454.9	537.9
102.5°	54.9	56.2	61.4	70.6	82.6	98.7	126.9	189.3	304.6	457.3	587.6
105°	70.3	72.6	76.5	85.2	97.9	114.0	141.1	192.4	287.4	426.8	580.0
107.5°	86.8	88.7	92.6	100.6	113.1	129.4	155.6	200.3	278.8	394.0	529.4
110°	97.9	100.2	103.7	111.2	123.2	140.0	165.3	206.7	277.0	378.4	497.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	108.1	110.4	114.2	121.3	132.9	150.1	174.5	213.7	277.5	368.2	475.4
115°	123.8	126.7	130.2	137.0	148.6	164.1	188.9	224.0	279.9	357.1	448.1
117.5°	140.2	142.5	145.9	152.1	163.1	179.3	202.2	235.1	284.1	351.6	430.8
120°	150.3	152.6	156.0	161.3	172.8	188.9	211.4	242.5	286.8	348.4	421.6
122.5°	160.0	161.9	165.3	171.0	182.5	199.0	220.2	248.9	290.0	346.6	413.7
125°	172.8	174.5	177.9	184.9	196.4	212.5	233.3	259.1	294.9	343.3	402.5
127.5°	182.9	185.2	190.1	197.6	208.7	225.3	245.5	268.7	299.8	341.3	392.2
130°	188.9	191.2	196.9	205.0	216.5	232.7	252.9	274.7	303.5	340.3	385.3
132.5°	194.4	197.2	203.4	212.0	223.9	240.0	259.2	280.7	307.2	339.9	379.7
135°	202.7	205.0	212.0	220.6	233.8	249.9	268.4	288.5	311.5	339.2	372.0
137.5°	210.6	213.3	220.3	229.4	242.6	257.5	275.8	294.5	315.5	339.1	366.6
140°	216.5	218.8	225.8	235.0	247.6	262.7	279.9	297.7	317.3	338.6	363.5
142.5°	222.6	224.4	230.9	240.0	252.3	266.3	283.2	300.5	318.7	338.6	360.2
145°	231.6	233.8	239.5	248.2	259.7	272.4	287.9	304.1	320.2	337.5	355.9
147.5°	241.2	242.9	248.4	256.4	266.0	277.2	291.9	306.1	320.6	335.4	351.5
150°	247.6	249.3	254.0	261.5	270.1	280.4	293.7	307.0	320.2	334.1	347.9
152.5°	254.1	254.9	259.5	266.1	274.3	283.7	295.6	307.4	319.3	331.7	344.7
155°	263.2	263.8	267.2	273.6	279.9	288.5	298.3	308.1	317.9	327.7	338.6
157.5°	270.7	271.4	274.2	279.6	284.8	292.0	300.2	308.1	315.3	323.6	333.0
160°	275.9	276.4	278.7	283.4	287.9	294.3	301.2	308.1	313.9	320.8	328.8
162.5°	280.9	280.5	282.9	286.6	290.7	295.7	301.6	307.6	312.5	318.5	325.2
165°	286.8	286.2	287.4	290.8	293.7	297.2	302.4	306.4	309.8	313.9	319.0
167.5°	291.6	290.9	292.0	294.2	296.3	298.4	302.3	305.6	307.2	309.8	313.1
170°	294.9	293.7	294.3	296.0	297.2	298.9	301.7	304.7	305.8	307.5	309.8
172.5°	296.7	296.0	295.7	297.4	298.1	299.3	301.3	303.3	304.0	304.8	306.6
175°	298.9	298.3	297.7	298.9	298.9	299.4	300.6	301.7	301.2	301.7	302.4
177.5°	299.9	299.0	298.5	299.4	299.4	299.4	299.9	300.8	299.9	299.4	299.9
180°	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5	1609.5
2.5°	1602.7	1605.4	1608.2	1609.3	1608.7	1608.2	1607.6	1607.1
5°	1591.9	1594.6	1597.3	1598.4	1597.7	1597.0	1596.3	1595.6
7.5°	1573.9	1576.6	1579.4	1580.4	1579.6	1578.9	1578.1	1577.4
10°	1557.8	1560.5	1563.3	1564.2	1563.2	1562.1	1561.0	1560.0
12.5°	1538.8	1540.8	1542.7	1543.3	1542.5	1541.8	1541.0	1540.2
15°	1505.5	1506.9	1508.2	1508.1	1506.4	1504.7	1503.0	1501.3
17.5°	1466.0	1467.6	1469.2	1469.2	1467.4	1465.8	1464.2	1462.5
20°	1435.2	1436.2	1437.2	1437.0	1435.7	1434.3	1433.0	1431.6
22.5°	1402.6	1402.8	1403.0	1402.7	1401.9	1401.1	1400.2	1399.4
25°	1349.4	1350.1	1350.8	1350.8	1350.1	1349.4	1348.7	1348.0
27.5°	1297.1	1296.0	1294.9	1293.6	1292.0	1290.3	1288.7	1287.1
30°	1256.2	1255.2	1254.2	1252.9	1251.5	1250.1	1248.8	1247.4
32.5°	1216.2	1214.3	1212.4	1210.8	1209.4	1208.1	1206.7	1205.3
35°	1152.0	1149.9	1147.8	1146.0	1144.3	1142.6	1140.7	1139.0
37.5°	1087.5	1085.0	1082.5	1080.4	1078.7	1077.0	1075.4	1073.8
40°	1043.1	1040.1	1036.9	1034.7	1033.3	1032.0	1030.6	1029.2
42.5°	999.3	995.8	992.5	989.9	988.0	986.0	984.1	982.1
45°	931.9	928.1	924.3	921.7	920.3	919.0	917.6	916.3
47.5°	861.8	857.8	853.8	850.8	848.8	846.9	844.9	842.8
50°	816.8	812.0	807.2	804.0	802.2	800.5	798.8	797.1
52.5°	770.2	766.2	762.2	759.1	756.8	754.6	752.2	750.0
55°	700.5	696.4	692.4	689.4	687.7	686.0	684.3	682.5
57.5°	628.2	624.2	620.2	617.4	616.2	614.9	613.6	612.3
60°	580.6	576.7	573.0	570.6	569.6	568.6	567.4	566.4
62.5°	535.3	531.8	528.3	525.8	524.5	523.2	521.9	520.6
65°	465.9	462.7	459.7	457.3	455.6	453.8	452.1	450.4
67.5°	397.3	394.9	392.4	390.5	389.2	387.8	386.5	385.1
70°	352.6	350.3	347.9	346.0	344.6	343.3	341.8	340.5
72.5°	310.6	308.2	305.8	304.1	303.0	301.8	300.7	299.6
75°	245.1	243.0	241.0	240.2	241.0	241.6	242.3	243.0
77.5°	186.4	185.4	184.4	183.4	182.4	181.5	180.5	179.6
80°	148.0	147.0	146.0	145.1	144.4	143.8	143.1	142.4
82.5°	110.4	109.1	107.8	107.0	106.8	106.7	106.6	106.4
85°	58.3	57.3	56.2	55.5	55.2	54.8	54.5	54.1
87.5°	19.4	18.3	17.7	17.3	17.0	16.8	16.5	16.2
90°	18.4	17.3	18.4	19.0	19.0	19.0	19.0	19.0
92.5°	50.2	43.1	38.3	34.6	34.2	32.4	32.8	31.9
95°	150.9	115.7	91.6	78.9	71.4	66.9	65.0	65.6
97.5°	352.1	288.1	225.8	184.2	156.6	142.5	134.1	129.3
100°	525.8	454.4	375.5	305.8	258.0	233.3	216.5	206.2
102.5°	639.6	623.5	565.8	491.9	440.0	397.7	376.9	362.8
105°	699.7	764.8	772.3	753.3	717.6	681.9	657.1	649.0
107.5°	656.4	754.5	814.4	842.2	846.7	844.8	839.8	829.1
110°	619.1	722.2	795.9	843.1	867.9	878.9	884.0	883.4





TEST NUMBER: P331437-840

CATALOG NUMBER: SA2XXDIP-C1005D530U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	585.0	684.0	762.8	816.9	851.3	869.6	879.4	882.5
115°	543.1	631.8	707.2	766.6	807.4	833.9	848.9	854.0
117.5°	511.5	589.4	657.8	713.5	755.2	783.2	798.9	803.2
120°	495.8	567.2	628.3	680.8	721.0	748.1	764.8	770.5
122.5°	483.4	548.9	606.6	654.0	690.1	716.8	731.6	736.5
125°	465.3	524.6	575.3	618.5	652.0	673.8	688.2	692.9
127.5°	447.5	501.2	549.0	588.9	617.9	638.4	650.9	654.6
130°	436.0	485.5	531.0	569.0	597.2	616.8	628.3	632.9
132.5°	425.0	470.8	512.6	548.3	576.0	595.6	606.2	610.4
135°	409.5	447.5	485.5	517.8	542.5	561.5	571.9	574.2
137.5°	397.2	429.0	459.1	487.3	509.8	526.1	535.2	538.7
140°	389.3	417.0	443.4	468.8	487.3	502.2	510.8	514.3
142.5°	382.8	406.4	429.2	450.4	467.9	481.5	489.2	489.9
145°	373.8	392.7	410.6	427.4	441.1	450.9	456.7	458.4
147.5°	366.8	381.7	395.7	407.9	419.3	427.1	431.0	432.0
150°	361.6	374.4	386.5	396.8	405.5	412.3	415.8	416.4
152.5°	356.6	368.4	378.6	387.6	394.4	400.4	402.9	403.0
155°	349.6	358.8	367.4	373.8	380.1	384.2	386.5	385.3
157.5°	341.4	349.1	356.4	361.3	365.8	369.2	370.2	370.2
160°	336.3	342.6	349.0	353.0	357.1	359.9	360.5	360.5
162.5°	331.2	336.7	342.1	345.2	349.2	351.2	351.7	351.3
165°	323.7	327.7	331.7	334.1	336.3	338.6	338.6	338.1
167.5°	316.4	319.5	322.2	324.4	325.4	326.7	326.6	325.9
170°	312.8	314.5	316.8	317.9	318.5	320.2	319.6	318.5
172.5°	308.6	309.8	311.6	312.4	313.0	313.8	313.2	312.5
175°	304.1	304.7	305.3	305.8	305.8	306.4	305.8	304.7
177.5°	300.8	300.8	301.3	301.3	301.3	301.3	300.8	299.9
180°	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4

(END OF REPORT)