

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: P331437-940

Luminaire Tested: **SA2XXDIP-C1005D530U940-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331437-940
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-C1005D530U940-4F0-1E-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

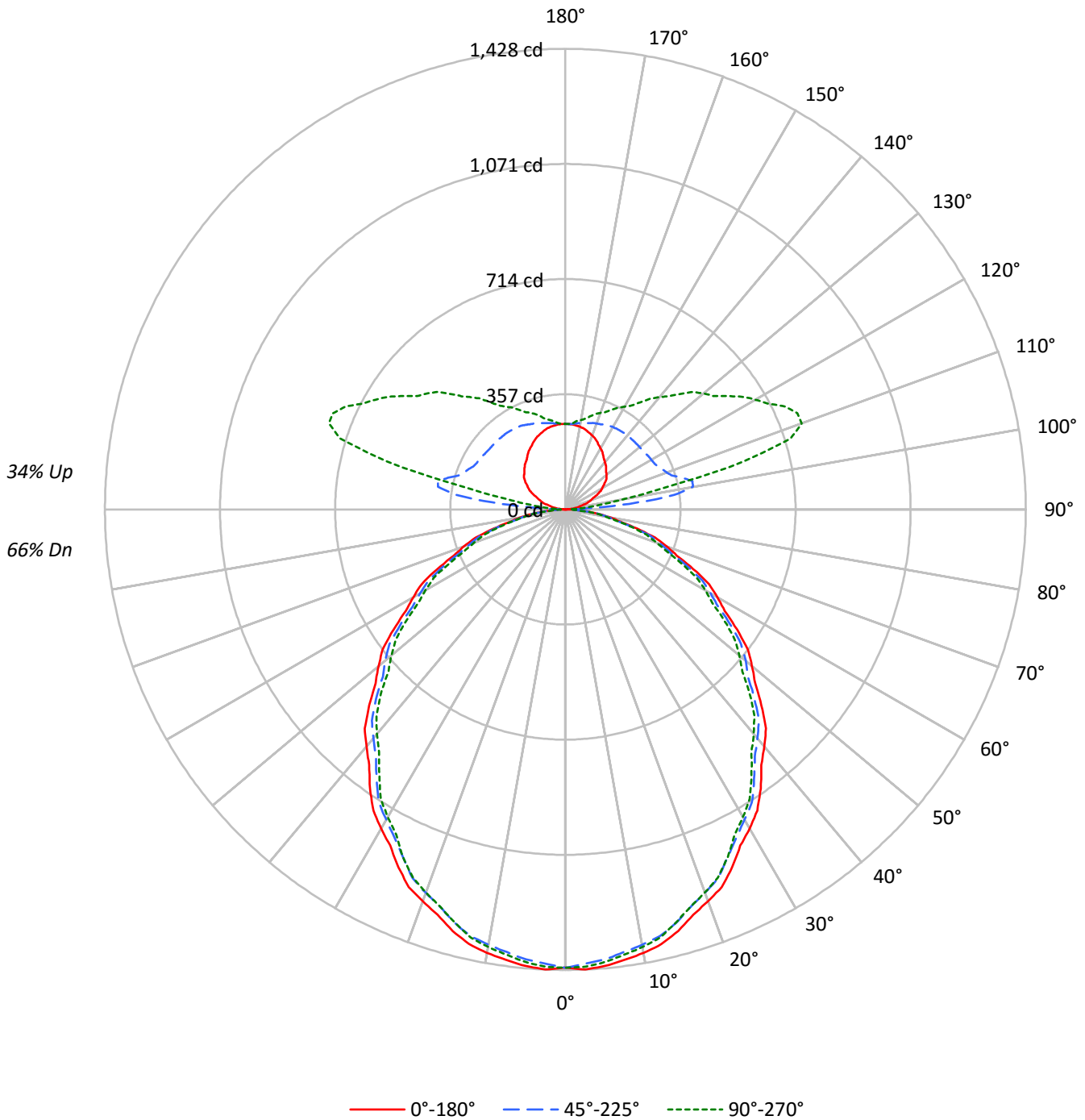
Lumens per Lamp: N/A
Luminaire Lumens: 5458.3 lumens
Efficiency: N/A
Efficacy: 99.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

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°	22946	22946	22946
5°	23034	22702	22835
10°	22897	22471	22584
15°	22614	22181	22158
20°	22213	21742	21720
25°	21814	21205	21205
30°	21300	20713	20534
35°	20820	20120	19825
40°	20219	19530	19153
45°	19628	18941	18472
50°	18982	18331	17678
55°	18311	17619	16963
60°	17563	16769	16152
65°	16756	15924	15194
70°	15739	14903	14195
75°	14323	13724	13381
80°	12710	12329	11688
85°	10374	9874	8855



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.6	2.4
10°-20°	376.0	6.9
20°-30°	552.7	10.1
30°-40°	642.0	11.8
40°-50°	641.3	11.7
50°-60°	559.3	10.2
60°-70°	413.6	7.6
70°-80°	234.2	4.3
80°-90°	65.4	1.2
90°-100°	105.7	1.9
100°-110°	358.8	6.6
110°-120°	381.2	7.0
120°-130°	313.8	5.7
130°-140°	252.0	4.6
140°-150°	190.4	3.5
150°-160°	133.8	2.5
160°-170°	78.8	1.4
170°-180°	25.6	0.5
0°-30°	1062.4	19.5
0°-40°	1704.4	31.2
0°-60°	2905.1	53.2
0°-90°	3618.2	66.3
90°-120°	845.7	15.5
90°-150°	1601.9	29.3
90°-180°	1840.0	33.7
0°-180°	5458.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1421	1421	1421	1421	1421	
5°	1421	1415	1401	1411	1409	135
15°	1353	1344	1327	1332	1326	381
25°	1224	1213	1190	1193	1190	563
35°	1056	1042	1021	1013	1006	659
45°	860	849	830	815	809	663
55°	650	642	626	610	603	581
65°	439	430	417	405	398	434
75°	230	227	220	212	214	245
85°	56	55	53	49	48	64
90°	0	7	17	16	17	4
95°	18	44	199	75	58	19
105°	62	94	377	674	573	66
115°	109	138	315	651	754	108
125°	153	180	303	527	612	135
135°	179	214	300	443	507	138
145°	204	235	298	370	405	128
155°	232	251	289	327	340	107
165°	253	261	277	294	298	71
175°	264	264	266	270	269	25
180°	264	264	264	264	264	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2
2.5°	1427.8	1426.6	1425.4	1424.2	1422.9	1421.0	1418.4	1415.7	1413.0	1410.3	1412.7
5°	1421.2	1420.0	1418.8	1417.6	1416.4	1414.1	1410.8	1407.4	1404.1	1400.7	1403.2
7.5°	1408.6	1406.8	1404.9	1403.0	1401.1	1398.5	1395.1	1391.7	1388.3	1384.9	1387.3
10°	1396.6	1394.5	1392.4	1390.3	1388.1	1385.3	1381.6	1378.0	1374.3	1370.6	1373.1
12.5°	1380.3	1378.3	1376.4	1374.6	1372.7	1369.9	1366.3	1362.6	1359.1	1355.4	1357.1
15°	1352.9	1351.1	1349.2	1347.5	1345.6	1342.7	1338.8	1334.8	1330.9	1327.0	1328.2
17.5°	1317.9	1316.1	1314.3	1312.4	1310.6	1307.7	1303.7	1299.7	1295.7	1291.7	1293.1
20°	1292.8	1290.9	1289.1	1287.3	1285.5	1282.5	1278.2	1274.0	1269.7	1265.4	1266.3
22.5°	1267.7	1265.1	1262.6	1260.0	1257.4	1254.2	1250.2	1246.2	1242.2	1238.1	1238.3
25°	1224.5	1222.0	1219.6	1217.2	1214.8	1210.9	1205.8	1200.6	1195.4	1190.3	1190.9
27.5°	1175.3	1173.0	1170.9	1168.7	1166.5	1163.4	1159.3	1155.2	1151.2	1147.1	1146.2
30°	1142.5	1140.1	1137.6	1135.1	1132.7	1129.3	1124.7	1120.2	1115.6	1111.0	1110.1
32.5°	1107.5	1105.5	1103.6	1101.6	1099.7	1096.4	1091.5	1086.7	1081.9	1077.1	1075.5
35°	1056.3	1053.3	1050.3	1047.2	1044.2	1040.3	1035.4	1030.6	1025.7	1020.8	1019.0
37.5°	998.7	996.0	993.4	990.7	988.0	984.3	979.4	974.6	969.6	964.8	962.5
40°	959.3	956.9	954.5	952.1	949.6	946.0	941.1	936.3	931.4	926.6	923.8
42.5°	921.0	918.6	916.2	913.8	911.3	907.7	902.9	898.0	893.1	888.2	885.3
45°	859.6	857.5	855.3	853.2	851.0	847.7	843.2	838.7	834.1	829.5	826.2
47.5°	798.3	796.4	794.3	792.4	790.3	786.9	782.2	777.5	772.8	768.0	764.5
50°	755.7	754.2	752.7	751.2	749.7	746.7	742.5	738.2	734.0	729.8	725.5
52.5°	714.2	712.2	710.2	708.2	706.1	703.1	699.1	695.1	691.2	687.2	683.6
55°	650.5	648.6	646.8	645.1	643.2	640.4	636.9	633.2	629.5	625.9	622.2
57.5°	586.6	585.1	583.6	582.2	580.7	578.0	574.0	570.0	566.0	562.0	558.4
60°	543.9	542.7	541.4	540.3	539.0	536.3	532.1	527.8	523.5	519.3	515.9
62.5°	502.4	500.4	498.5	496.5	494.5	492.0	488.7	485.4	482.1	478.8	475.7
65°	438.6	436.8	435.1	433.2	431.4	428.9	425.9	422.8	419.8	416.8	414.1
67.5°	373.9	372.5	371.0	369.5	368.1	366.0	363.2	360.5	357.8	355.1	352.9
70°	333.4	332.3	331.0	329.8	328.6	326.6	323.9	321.1	318.4	315.7	313.5
72.5°	291.9	290.7	289.4	288.3	287.0	285.5	283.8	282.0	280.3	278.5	276.3
75°	229.6	229.0	228.4	227.7	227.1	226.0	224.5	223.0	221.5	220.0	218.2
77.5°	173.8	172.8	171.7	170.8	169.7	168.9	168.3	167.6	167.0	166.5	165.5
80°	136.7	136.3	136.1	135.7	135.5	135.0	134.4	133.8	133.1	132.6	131.6
82.5°	101.7	101.7	101.6	101.5	101.4	101.2	100.9	100.5	100.1	99.8	98.6
85°	56.0	55.7	55.5	55.1	54.8	54.5	54.2	53.9	53.6	53.3	52.3
87.5°	19.8	19.6	19.5	19.3	19.0	18.8	18.8	19.0	19.2	18.7	17.9
90°	0.5	2.1	4.1	5.1	6.1	7.7	10.2	13.7	16.8	17.3	16.8
92.5°	6.2	8.9	12.6	14.9	18.3	23.1	34.6	50.7	65.2	66.1	55.8
95°	17.8	19.8	24.9	29.5	37.6	49.8	73.2	117.4	176.5	199.4	174.4
97.5°	29.0	31.7	37.1	44.1	53.4	67.2	96.7	158.3	256.3	340.3	357.0
100°	39.1	40.7	45.3	53.4	63.6	77.8	104.8	166.8	276.6	401.7	474.9
102.5°	48.5	49.7	54.2	62.3	72.9	87.1	112.1	167.2	268.9	403.8	518.9
105°	62.1	64.1	67.6	75.3	86.4	100.7	124.6	169.9	253.8	376.8	512.1
107.5°	76.7	78.3	81.8	88.8	99.9	114.2	137.4	176.8	246.2	347.9	467.4
110°	86.4	88.5	91.6	98.2	108.8	123.6	146.0	182.5	244.6	334.1	439.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	95.4	97.5	100.9	107.1	117.3	132.5	154.1	188.7	245.0	325.1	419.8
115°	109.3	111.9	114.9	121.0	131.2	144.9	166.8	197.8	247.2	315.3	395.7
117.5°	123.8	125.8	128.9	134.3	144.0	158.3	178.5	207.6	250.8	310.5	380.4
120°	132.7	134.7	137.8	142.4	152.6	166.8	186.6	214.1	253.2	307.6	372.3
122.5°	141.2	142.9	146.0	151.0	161.1	175.8	194.4	219.8	256.1	306.0	365.3
125°	152.6	154.1	157.1	163.3	173.4	187.6	206.0	228.8	260.4	303.1	355.4
127.5°	161.5	163.5	167.8	174.5	184.3	198.9	216.8	237.3	264.7	301.4	346.3
130°	166.8	168.8	173.9	181.0	191.2	205.5	223.3	242.5	268.0	300.5	340.2
132.5°	171.7	174.2	179.6	187.2	197.7	212.0	228.9	247.9	271.3	300.1	335.3
135°	179.0	181.0	187.2	194.7	206.4	220.7	237.0	254.8	275.1	299.5	328.5
137.5°	185.9	188.3	194.5	202.6	214.2	227.4	243.5	260.0	278.6	299.4	323.7
140°	191.2	193.2	199.4	207.5	218.6	231.9	247.2	262.9	280.2	299.0	320.9
142.5°	196.5	198.1	203.8	212.0	222.7	235.1	250.0	265.4	281.4	299.0	318.1
145°	204.5	206.4	211.5	219.2	229.3	240.5	254.2	268.5	282.8	298.0	314.2
147.5°	212.9	214.5	219.4	226.4	234.9	244.8	257.7	270.3	283.1	296.1	310.4
150°	218.6	220.2	224.3	230.9	238.5	247.6	259.3	271.1	282.8	295.0	307.2
152.5°	224.4	225.1	229.2	235.0	242.2	250.5	261.0	271.4	282.0	292.9	304.3
155°	232.4	232.9	235.9	241.6	247.2	254.8	263.4	272.1	280.7	289.4	299.0
157.5°	239.1	239.6	242.1	246.9	251.5	257.8	265.1	272.1	278.4	285.7	294.0
160°	243.6	244.1	246.1	250.2	254.2	259.8	266.0	272.1	277.1	283.3	290.3
162.5°	248.1	247.7	249.8	253.1	256.7	261.1	266.4	271.6	275.9	281.2	287.1
165°	253.2	252.7	253.8	256.8	259.3	262.4	267.0	270.5	273.6	277.1	281.7
167.5°	257.5	256.9	257.8	259.8	261.6	263.5	266.9	269.8	271.3	273.6	276.4
170°	260.4	259.3	259.8	261.4	262.4	263.9	266.4	269.0	270.0	271.5	273.6
172.5°	262.0	261.4	261.1	262.6	263.2	264.3	266.1	267.8	268.4	269.1	270.7
175°	263.9	263.4	262.9	263.9	263.9	264.4	265.5	266.4	266.0	266.4	267.0
177.5°	264.8	264.0	263.6	264.4	264.4	264.4	264.8	265.6	264.8	264.4	264.8
180°	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2
2.5°	1415.1	1417.6	1420.0	1421.0	1420.5	1420.0	1419.5	1419.1
5°	1405.6	1408.0	1410.4	1411.4	1410.8	1410.2	1409.5	1408.9
7.5°	1389.7	1392.1	1394.6	1395.5	1394.8	1394.2	1393.5	1392.9
10°	1375.6	1378.0	1380.4	1381.2	1380.3	1379.3	1378.4	1377.5
12.5°	1358.8	1360.5	1362.2	1362.7	1362.0	1361.4	1360.7	1360.0
15°	1329.4	1330.6	1331.8	1331.7	1330.2	1328.6	1327.1	1325.6
17.5°	1294.5	1295.9	1297.3	1297.3	1295.7	1294.3	1292.9	1291.4
20°	1267.3	1268.2	1269.1	1268.9	1267.7	1266.5	1265.3	1264.1
22.5°	1238.5	1238.7	1238.9	1238.6	1237.9	1237.2	1236.4	1235.6
25°	1191.5	1192.1	1192.8	1192.8	1192.1	1191.5	1190.9	1190.3
27.5°	1145.3	1144.3	1143.4	1142.3	1140.9	1139.3	1137.9	1136.5
30°	1109.2	1108.3	1107.4	1106.3	1105.1	1103.8	1102.7	1101.4
32.5°	1073.9	1072.2	1070.6	1069.2	1067.9	1066.8	1065.5	1064.3
35°	1017.2	1015.4	1013.5	1011.9	1010.4	1008.9	1007.3	1005.8
37.5°	960.3	958.1	955.8	954.0	952.5	951.0	949.6	948.2
40°	921.0	918.4	915.6	913.6	912.4	911.2	910.0	908.7
42.5°	882.3	879.3	876.4	874.1	872.4	870.7	869.0	867.2
45°	822.9	819.5	816.2	813.9	812.6	811.5	810.2	809.0
47.5°	761.0	757.4	753.9	751.3	749.5	747.8	746.0	744.2
50°	721.2	717.0	712.7	709.9	708.4	706.9	705.3	703.8
52.5°	680.1	676.5	673.1	670.3	668.2	666.3	664.2	662.3
55°	618.6	614.9	611.4	608.8	607.3	605.7	604.2	602.6
57.5°	554.7	551.2	547.6	545.2	544.1	543.0	541.8	540.6
60°	512.6	509.3	506.0	503.8	502.9	502.0	501.1	500.2
62.5°	472.7	469.6	466.5	464.3	463.2	462.0	460.8	459.7
65°	411.3	408.6	405.9	403.8	402.3	400.7	399.2	397.7
67.5°	350.8	348.7	346.5	344.8	343.7	342.4	341.3	340.0
70°	311.4	309.3	307.2	305.5	304.3	303.1	301.8	300.7
72.5°	274.3	272.2	270.0	268.5	267.5	266.5	265.6	264.6
75°	216.4	214.5	212.8	212.1	212.8	213.3	213.9	214.5
77.5°	164.6	163.7	162.8	161.9	161.0	160.2	159.3	158.5
80°	130.7	129.8	128.9	128.1	127.5	127.0	126.4	125.7
82.5°	97.5	96.3	95.1	94.5	94.3	94.3	94.2	94.0
85°	51.5	50.6	49.7	49.0	48.8	48.4	48.2	47.8
87.5°	17.1	16.1	15.6	15.2	15.0	14.8	14.5	14.3
90°	16.2	15.2	16.2	16.8	16.8	16.8	16.8	16.8
92.5°	44.3	38.1	33.8	30.6	30.2	28.6	29.0	28.2
95°	133.2	102.2	80.9	69.6	63.0	59.0	57.4	58.0
97.5°	310.9	254.4	199.4	162.6	138.3	125.8	118.4	114.1
100°	464.3	401.3	331.5	270.0	227.8	206.0	191.2	182.1
102.5°	564.8	550.5	499.6	434.4	388.5	351.2	332.8	320.4
105°	617.9	675.3	682.0	665.1	633.6	602.1	580.2	573.1
107.5°	579.6	666.2	719.1	743.7	747.6	745.9	741.5	732.1
110°	546.7	637.7	702.8	744.5	766.3	776.1	780.6	780.1



TEST NUMBER: P331437-940

CATALOG NUMBER: SA2XXDIP-C1005D530U940-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	516.6	604.0	673.5	721.3	751.7	767.9	776.5	779.3
115°	479.6	557.9	624.5	676.9	712.9	736.4	749.6	754.1
117.5°	451.7	520.4	580.9	630.0	666.8	691.5	705.4	709.3
120°	437.8	500.9	554.8	601.1	636.7	660.6	675.3	680.4
122.5°	426.9	484.6	535.7	577.5	609.4	632.9	646.0	650.3
125°	410.9	463.2	508.0	546.2	575.7	594.9	607.7	611.8
127.5°	395.1	442.6	484.7	520.0	545.6	563.7	574.7	578.0
130°	385.0	428.7	468.9	502.4	527.4	544.7	554.8	558.8
132.5°	375.2	415.7	452.6	484.1	508.6	525.9	535.3	539.0
135°	361.6	395.1	428.7	457.2	479.0	495.8	505.0	507.0
137.5°	350.7	378.8	405.4	430.3	450.1	464.6	472.6	475.6
140°	343.8	368.2	391.6	413.9	430.3	443.4	451.0	454.1
142.5°	338.0	358.8	379.0	397.7	413.1	425.2	431.9	432.6
145°	330.0	346.8	362.6	377.4	389.5	398.1	403.2	404.7
147.5°	323.9	337.1	349.4	360.2	370.2	377.1	380.6	381.5
150°	319.3	330.6	341.3	350.4	358.0	364.1	367.1	367.7
152.5°	314.9	325.3	334.3	342.2	348.2	353.6	355.8	355.9
155°	308.7	316.8	324.4	330.0	335.6	339.2	341.3	340.2
157.5°	301.5	308.3	314.7	319.1	323.0	326.0	326.9	326.9
160°	296.9	302.6	308.2	311.7	315.3	317.8	318.3	318.3
162.5°	292.5	297.3	302.1	304.8	308.4	310.1	310.6	310.2
165°	285.8	289.4	292.9	295.0	296.9	299.0	299.0	298.5
167.5°	279.4	282.1	284.5	286.4	287.3	288.5	288.4	287.8
170°	276.2	277.7	279.7	280.7	281.2	282.8	282.2	281.2
172.5°	272.5	273.6	275.2	275.8	276.3	277.1	276.5	275.9
175°	268.5	269.0	269.6	270.0	270.0	270.5	270.0	269.0
177.5°	265.6	265.6	266.1	266.1	266.1	266.1	265.6	264.8
180°	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4

(END OF REPORT)