

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: P331428

Luminaire Tested: **SA2XXDIP-C1005D330U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331428
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-C1005D330U835-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

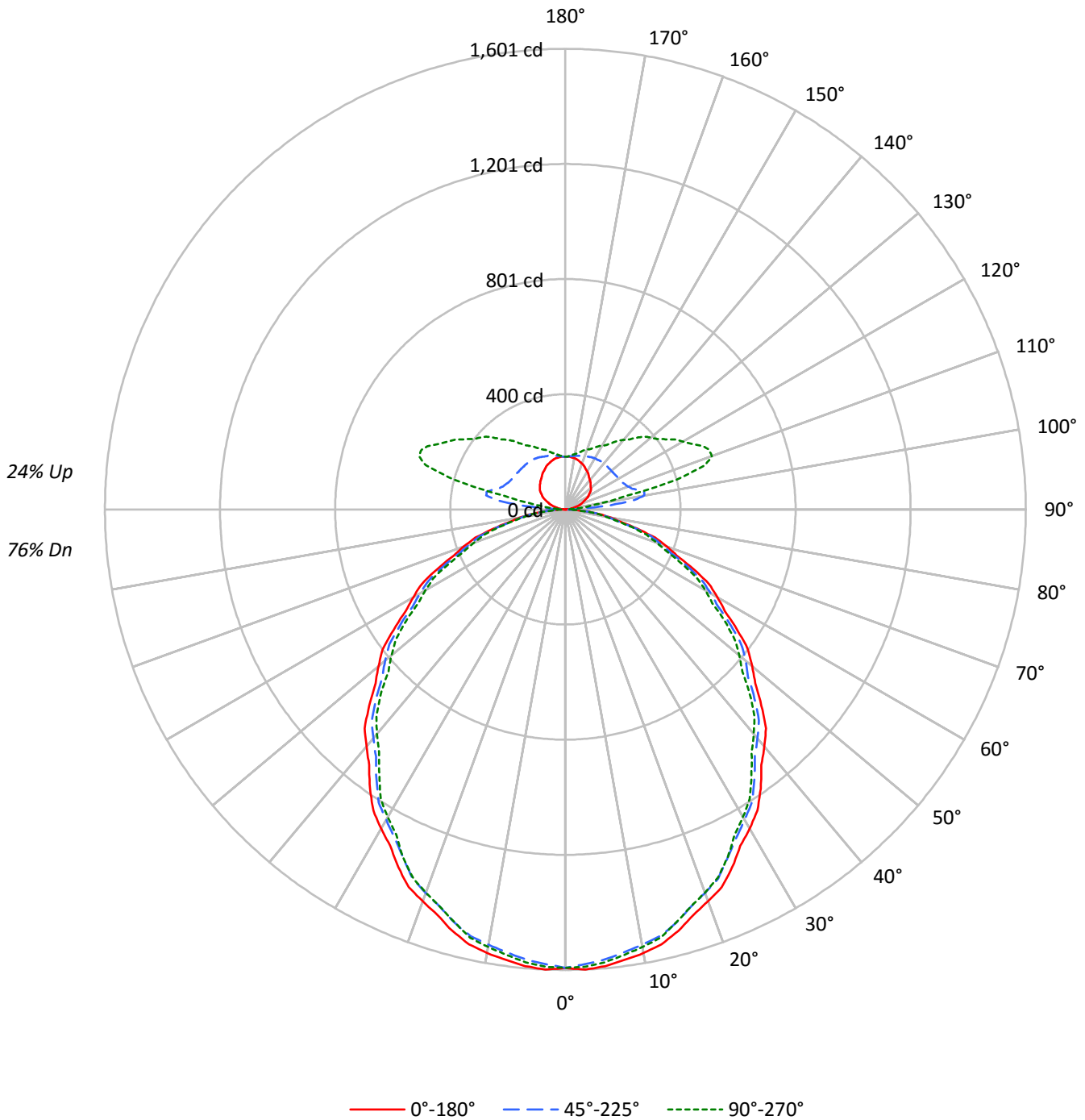
Lumens per Lamp: N/A
Luminaire Lumens: 5335.1 lumens
Efficiency: N/A
Efficacy: 107.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 49.8
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



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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	113	113	113	113	108	108	108	108	98	98	98	89	89	89	80	80	80	76				
1	104	99	95	91	98	95	91	88	86	83	81	78	76	74	71	69	68	64				
2	94	87	80	75	90	83	77	72	75	71	67	69	65	62	62	60	57	54				
3	86	76	69	62	82	73	66	60	67	61	56	61	56	52	55	52	49	45				
4	79	68	59	53	75	65	57	51	59	53	48	54	49	45	49	45	42	39				
5	73	60	52	46	69	58	50	44	53	47	42	49	43	39	45	40	37	34				
6	67	54	46	40	64	52	44	39	48	41	36	44	39	34	40	36	32	30				
7	62	49	41	35	59	47	40	34	44	37	32	40	35	30	37	32	29	26				
8	58	45	37	31	55	43	36	30	40	33	29	37	31	27	34	29	26	24				
9	54	41	33	28	51	40	32	27	37	30	26	34	29	25	31	27	23	21				
10	50	38	30	25	48	37	29	25	34	28	24	32	26	22	29	25	21	19				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	25733	25733	25733
5°	25832	25459	25608
10°	25678	25201	25327
15°	25361	24874	24849
20°	24911	24383	24357
25°	24464	23779	23779
30°	23886	23228	23029
35°	23349	22565	22231
40°	22675	21901	21479
45°	22012	21240	20717
50°	21288	20557	19826
55°	20535	19758	19023
60°	19695	18807	18112
65°	18793	17857	17039
70°	17651	16711	15918
75°	16064	15390	15009
80°	14254	13826	13110
85°	11634	11078	9930



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.9	2.8
10°-20°	421.7	7.9
20°-30°	619.8	11.6
30°-40°	720.0	13.5
40°-50°	719.2	13.5
50°-60°	627.2	11.8
60°-70°	463.8	8.7
70°-80°	262.7	4.9
80°-90°	72.3	1.4
90°-100°	73.5	1.4
100°-110°	249.3	4.7
110°-120°	264.8	5.0
120°-130°	218.0	4.1
130°-140°	175.1	3.3
140°-150°	132.3	2.5
150°-160°	93.0	1.7
160°-170°	54.7	1.0
170°-180°	17.8	0.3
0°-30°	1191.4	22.3
0°-40°	1911.4	35.8
0°-60°	3257.9	61.1
0°-90°	4056.6	76.0
90°-120°	587.6	11.0
90°-150°	1113.0	20.9
90°-180°	1279.0	24.0
0°-180°	5335.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1594	1594	1594	1594	1594	
5°	1594	1587	1571	1582	1580	151
15°	1517	1507	1488	1493	1487	427
25°	1373	1360	1335	1338	1335	631
35°	1185	1169	1145	1136	1128	739
45°	964	953	930	914	907	744
55°	730	720	702	684	676	652
65°	492	482	467	454	446	486
75°	258	254	247	238	241	275
85°	63	61	60	55	54	72
90°	0	5	12	12	12	4
95°	12	30	138	52	40	13
105°	43	65	262	468	398	46
115°	76	96	219	452	524	75
125°	106	125	211	366	425	94
135°	124	148	208	308	352	96
145°	142	163	207	257	281	89
155°	162	174	201	227	236	74
165°	176	181	193	204	207	50
175°	183	184	185	187	187	17
180°	184	184	184	184	184	



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CATALOG NUMBER: SA2XXDIP-C1005D330U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8
2.5°	1601.2	1599.8	1598.5	1597.1	1595.7	1593.6	1590.6	1587.6	1584.6	1581.6	1584.3
5°	1593.8	1592.5	1591.1	1589.7	1588.4	1585.8	1582.1	1578.3	1574.6	1570.8	1573.6
7.5°	1579.7	1577.6	1575.5	1573.4	1571.3	1568.3	1564.5	1560.7	1556.9	1553.1	1555.8
10°	1566.2	1563.9	1561.5	1559.1	1556.7	1553.5	1549.4	1545.3	1541.2	1537.1	1539.9
12.5°	1547.9	1545.7	1543.6	1541.5	1539.4	1536.3	1532.2	1528.1	1524.1	1520.0	1521.9
15°	1517.2	1515.2	1513.1	1511.1	1509.0	1505.8	1501.4	1496.9	1492.5	1488.1	1489.5
17.5°	1478.0	1475.9	1473.9	1471.8	1469.8	1466.5	1462.0	1457.5	1453.0	1448.6	1450.1
20°	1449.8	1447.7	1445.7	1443.6	1441.6	1438.2	1433.4	1428.7	1423.9	1419.1	1420.1
22.5°	1421.6	1418.7	1415.9	1413.0	1410.1	1406.5	1402.0	1397.5	1393.0	1388.5	1388.7
25°	1373.2	1370.4	1367.7	1365.0	1362.3	1358.0	1352.2	1346.4	1340.6	1334.8	1335.5
27.5°	1318.0	1315.5	1313.1	1310.6	1308.2	1304.7	1300.1	1295.5	1291.0	1286.4	1285.4
30°	1281.2	1278.5	1275.7	1273.0	1270.3	1266.4	1261.3	1256.2	1251.1	1245.9	1244.9
32.5°	1242.0	1239.8	1237.6	1235.4	1233.2	1229.5	1224.1	1218.7	1213.3	1207.9	1206.1
35°	1184.6	1181.2	1177.8	1174.4	1171.0	1166.6	1161.1	1155.7	1150.3	1144.8	1142.8
37.5°	1120.0	1117.0	1114.0	1111.0	1108.0	1103.8	1098.3	1092.9	1087.4	1082.0	1079.4
40°	1075.8	1073.1	1070.4	1067.7	1064.9	1060.9	1055.4	1050.0	1044.5	1039.1	1036.0
42.5°	1032.9	1030.2	1027.5	1024.8	1022.0	1017.9	1012.5	1007.0	1001.6	996.1	992.8
45°	964.0	961.6	959.2	956.8	954.4	950.7	945.6	940.5	935.4	930.2	926.5
47.5°	895.3	893.1	890.8	888.6	886.3	882.5	877.2	871.9	866.6	861.3	857.3
50°	847.5	845.8	844.1	842.4	840.7	837.4	832.7	827.9	823.1	818.4	813.6
52.5°	800.9	798.7	796.4	794.2	791.9	788.5	784.0	779.5	775.1	770.6	766.6
55°	729.5	727.4	725.4	723.4	721.3	718.2	714.2	710.1	706.0	701.9	697.8
57.5°	657.8	656.1	654.5	652.9	651.2	648.2	643.7	639.2	634.7	630.2	626.2
60°	609.9	608.6	607.2	605.9	604.5	601.4	596.7	591.9	587.1	582.4	578.6
62.5°	563.4	561.2	559.0	556.8	554.6	551.7	548.0	544.4	540.7	537.0	533.5
65°	491.9	489.9	487.9	485.8	483.8	481.0	477.6	474.2	470.8	467.4	464.4
67.5°	419.3	417.7	416.0	414.4	412.8	410.4	407.3	404.3	401.2	398.2	395.8
70°	373.9	372.6	371.2	369.9	368.5	366.3	363.2	360.1	357.1	354.0	351.6
72.5°	327.3	326.0	324.6	323.3	321.9	320.2	318.3	316.3	314.3	312.3	309.9
75°	257.5	256.8	256.1	255.4	254.7	253.5	251.8	250.1	248.4	246.7	244.7
77.5°	194.9	193.8	192.6	191.5	190.3	189.4	188.7	188.0	187.3	186.7	185.6
80°	153.3	152.9	152.6	152.2	151.9	151.4	150.7	150.0	149.3	148.7	147.6
82.5°	114.0	114.0	113.9	113.8	113.7	113.5	113.1	112.7	112.3	111.9	110.6
85°	62.8	62.5	62.2	61.8	61.5	61.1	60.8	60.4	60.1	59.8	58.7
87.5°	22.1	21.8	21.5	21.1	20.7	20.4	20.2	20.2	20.0	19.6	18.7
90°	0.4	1.4	2.8	3.5	4.2	5.3	7.1	9.5	11.7	12.0	11.7
92.5°	4.3	6.2	8.8	10.3	12.7	16.0	24.0	35.3	45.3	45.9	38.8
95°	12.4	13.8	17.3	20.5	26.1	34.6	50.9	81.6	122.6	138.5	121.2
97.5°	20.1	22.0	25.8	30.6	37.1	46.7	67.1	110.0	178.1	236.4	248.0
100°	27.2	28.3	31.4	37.1	44.2	54.1	72.8	115.9	192.2	279.1	330.0
102.5°	33.7	34.5	37.7	43.3	50.7	60.6	77.9	116.2	186.8	280.5	360.5
105°	43.1	44.5	47.0	52.3	60.1	70.0	86.6	118.0	176.3	261.8	355.8
107.5°	53.3	54.4	56.8	61.7	69.4	79.4	95.5	122.9	171.1	241.7	324.8
110°	60.1	61.5	63.6	68.2	75.6	85.9	101.4	126.8	170.0	232.1	305.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	66.3	67.7	70.1	74.4	81.5	92.1	107.1	131.1	170.2	225.9	291.7
115°	76.0	77.7	79.9	84.1	91.2	100.7	115.9	137.4	171.7	219.1	274.9
117.5°	86.0	87.4	89.5	93.3	100.1	110.0	124.0	144.2	174.3	215.7	264.3
120°	92.2	93.6	95.8	98.9	106.0	115.9	129.7	148.8	176.0	213.8	258.6
122.5°	98.2	99.3	101.4	104.9	111.9	122.1	135.0	152.7	177.9	212.6	253.8
125°	106.0	107.1	109.2	113.4	120.5	130.4	143.1	159.0	180.9	210.6	247.0
127.5°	112.2	113.6	116.6	121.3	128.0	138.2	150.6	164.9	183.9	209.4	240.6
130°	115.9	117.3	120.8	125.8	132.9	142.7	155.1	168.5	186.2	208.8	236.4
132.5°	119.3	121.0	124.8	130.0	137.4	147.3	159.1	172.2	188.5	208.5	233.0
135°	124.4	125.8	130.0	135.3	143.5	153.3	164.7	177.0	191.2	208.1	228.2
137.5°	129.2	130.9	135.1	140.8	148.8	158.0	169.2	180.7	193.6	208.0	224.9
140°	132.9	134.3	138.5	144.2	151.9	161.1	171.7	182.7	194.7	207.8	222.9
142.5°	136.5	137.7	141.6	147.3	154.8	163.4	173.7	184.4	195.5	207.8	221.0
145°	142.0	143.5	147.0	152.3	159.4	167.1	176.7	186.6	196.4	207.0	218.4
147.5°	148.0	149.0	152.4	157.3	163.2	170.1	179.1	187.8	196.7	205.8	215.7
150°	151.9	153.0	155.8	160.4	165.7	172.1	180.2	188.3	196.4	204.9	213.4
152.5°	155.9	156.4	159.2	163.2	168.3	174.0	181.3	188.6	195.9	203.5	211.4
155°	161.5	161.8	163.9	167.8	171.7	177.0	183.0	189.0	195.0	201.0	207.8
157.5°	166.1	166.5	168.2	171.6	174.7	179.1	184.2	189.0	193.4	198.5	204.3
160°	169.2	169.6	171.0	173.8	176.7	180.6	184.8	189.0	192.6	196.8	201.7
162.5°	172.4	172.1	173.6	175.8	178.4	181.4	185.1	188.7	191.7	195.4	199.5
165°	176.0	175.6	176.3	178.4	180.2	182.3	185.5	188.0	190.1	192.6	195.7
167.5°	178.9	178.5	179.1	180.5	181.8	183.1	185.4	187.5	188.5	190.1	192.1
170°	180.9	180.2	180.6	181.6	182.3	183.4	185.1	186.9	187.6	188.7	190.1
172.5°	182.0	181.6	181.4	182.5	182.9	183.7	184.9	186.1	186.5	187.0	188.1
175°	183.4	183.0	182.7	183.4	183.4	183.7	184.4	185.1	184.8	185.1	185.5
177.5°	184.0	183.4	183.2	183.7	183.7	183.7	184.0	184.6	184.0	183.7	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8
2.5°	1587.0	1589.7	1592.5	1593.6	1593.0	1592.5	1591.9	1591.4
5°	1576.3	1579.0	1581.7	1582.8	1582.1	1581.4	1580.7	1580.0
7.5°	1558.5	1561.2	1564.0	1565.0	1564.2	1563.5	1562.7	1562.0
10°	1542.6	1545.3	1548.0	1548.9	1547.9	1546.8	1545.8	1544.8
12.5°	1523.8	1525.7	1527.6	1528.2	1527.4	1526.7	1525.9	1525.2
15°	1490.8	1492.2	1493.5	1493.4	1491.7	1490.0	1488.3	1486.6
17.5°	1451.7	1453.3	1454.8	1454.8	1453.1	1451.5	1449.9	1448.2
20°	1421.2	1422.2	1423.2	1423.0	1421.7	1420.3	1419.0	1417.6
22.5°	1388.9	1389.1	1389.3	1389.0	1388.2	1387.4	1386.5	1385.7
25°	1336.2	1336.9	1337.6	1337.6	1336.9	1336.2	1335.5	1334.8
27.5°	1284.4	1283.3	1282.3	1281.0	1279.4	1277.7	1276.1	1274.5
30°	1243.9	1242.9	1241.9	1240.7	1239.3	1237.9	1236.6	1235.2
32.5°	1204.3	1202.4	1200.6	1199.0	1197.6	1196.3	1194.9	1193.5
35°	1140.7	1138.7	1136.6	1134.8	1133.1	1131.4	1129.6	1127.9
37.5°	1076.9	1074.4	1071.9	1069.8	1068.2	1066.5	1064.9	1063.3
40°	1032.9	1029.9	1026.8	1024.6	1023.2	1021.9	1020.5	1019.1
42.5°	989.5	986.1	982.8	980.2	978.3	976.4	974.5	972.5
45°	922.8	919.0	915.3	912.7	911.3	910.0	908.6	907.3
47.5°	853.4	849.4	845.5	842.5	840.5	838.6	836.6	834.6
50°	808.8	804.1	799.3	796.1	794.4	792.7	791.0	789.3
52.5°	762.7	758.7	754.8	751.7	749.4	747.2	744.9	742.7
55°	693.7	689.6	685.6	682.7	681.0	679.3	677.6	675.8
57.5°	622.1	618.1	614.1	611.4	610.2	608.9	607.6	606.3
60°	574.9	571.1	567.4	565.0	564.0	563.0	561.9	560.9
62.5°	530.1	526.6	523.1	520.7	519.4	518.1	516.8	515.5
65°	461.3	458.2	455.2	452.8	451.1	449.4	447.7	446.0
67.5°	393.4	391.0	388.6	386.7	385.4	384.0	382.7	381.3
70°	349.2	346.9	344.5	342.6	341.2	339.9	338.5	337.2
72.5°	307.6	305.2	302.8	301.1	300.0	298.9	297.8	296.7
75°	242.7	240.6	238.6	237.9	238.6	239.2	239.9	240.6
77.5°	184.6	183.6	182.6	181.6	180.6	179.7	178.7	177.8
80°	146.6	145.6	144.6	143.7	143.0	142.4	141.7	141.0
82.5°	109.3	108.0	106.7	106.0	105.8	105.7	105.6	105.4
85°	57.7	56.7	55.7	55.0	54.7	54.3	54.0	53.6
87.5°	17.8	16.8	16.2	15.7	15.4	15.1	14.9	14.6
90°	11.3	10.6	11.3	11.7	11.7	11.7	11.7	11.7
92.5°	30.8	26.4	23.5	21.3	21.0	19.9	20.1	19.6
95°	92.6	71.0	56.2	48.4	43.8	41.0	39.9	40.3
97.5°	216.0	176.7	138.5	113.0	96.1	87.4	82.3	79.3
100°	322.6	278.8	230.4	187.6	158.3	143.1	132.9	126.5
102.5°	392.4	382.5	347.1	301.8	269.9	244.0	231.2	222.6
105°	429.3	469.2	473.8	462.2	440.2	418.3	403.1	398.2
107.5°	402.7	462.9	499.6	516.7	519.5	518.3	515.2	508.7
110°	379.8	443.1	488.3	517.3	532.5	539.2	542.4	542.0



TEST NUMBER: P331428

CATALOG NUMBER: SA2XXDIP-C1005D330U835-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	358.9	419.6	467.9	501.2	522.3	533.5	539.5	541.4
115°	333.2	387.6	433.9	470.3	495.4	511.6	520.8	524.0
117.5°	313.8	361.6	403.6	437.7	463.3	480.5	490.1	492.8
120°	304.2	348.0	385.5	417.6	442.4	459.0	469.2	472.8
122.5°	296.6	336.7	372.2	401.2	423.4	439.8	448.9	451.8
125°	285.5	321.9	353.0	379.5	400.0	413.4	422.2	425.1
127.5°	274.5	307.5	336.8	361.2	379.1	391.7	399.3	401.6
130°	267.5	297.9	325.8	349.1	366.4	378.4	385.5	388.3
132.5°	260.7	288.8	314.5	336.4	353.4	365.4	371.9	374.5
135°	251.2	274.5	297.9	317.6	332.8	344.5	350.9	352.3
137.5°	243.7	263.2	281.7	298.9	312.8	322.8	328.4	330.5
140°	238.8	255.8	272.1	287.6	298.9	308.1	313.4	315.5
142.5°	234.9	249.3	263.3	276.3	287.0	295.4	300.1	300.5
145°	229.3	241.0	251.9	262.2	270.6	276.7	280.2	281.2
147.5°	225.0	234.2	242.7	250.2	257.2	262.0	264.4	265.1
150°	221.9	229.7	237.1	243.4	248.7	253.0	255.1	255.5
152.5°	218.8	226.0	232.3	237.8	242.0	245.6	247.2	247.3
155°	214.5	220.1	225.4	229.3	233.2	235.7	237.1	236.4
157.5°	209.5	214.2	218.6	221.7	224.4	226.5	227.1	227.1
160°	206.3	210.2	214.1	216.6	219.1	220.8	221.2	221.2
162.5°	203.2	206.6	209.9	211.8	214.3	215.5	215.8	215.5
165°	198.6	201.0	203.5	204.9	206.3	207.8	207.8	207.4
167.5°	194.1	196.0	197.7	199.0	199.6	200.4	200.3	199.9
170°	191.9	192.9	194.3	195.0	195.4	196.4	196.1	195.4
172.5°	189.3	190.1	191.2	191.6	192.0	192.5	192.1	191.7
175°	186.6	186.9	187.3	187.6	187.6	188.0	187.6	186.9
177.5°	184.6	184.6	184.9	184.9	184.9	184.9	184.6	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7

(END OF REPORT)