

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: P332678-927

Luminaire Tested: **SA4XXDIP-C1195D365U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332678-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1195D365U927-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

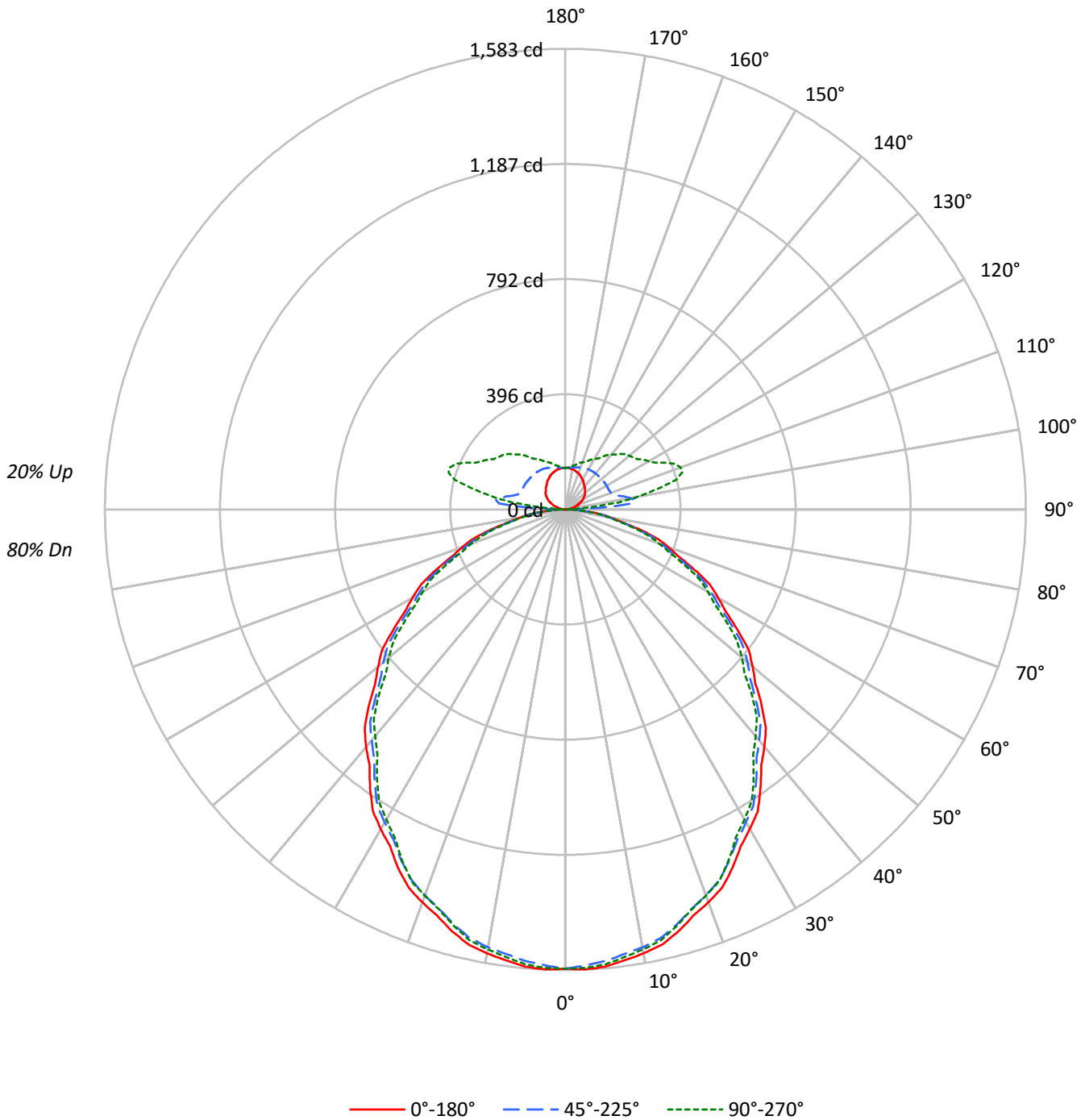
Lumens per Lamp: N/A
Luminaire Lumens: 5088.4 lumens
Efficiency: N/A
Efficacy: 102.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

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	0
RCR																		
0	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	80
1	104	100	96	92	100	96	92	89	88	85	82	80	78	76	74	72	70	67
2	95	87	81	75	91	84	78	73	77	72	68	71	67	64	65	62	59	56
3	87	77	69	63	83	74	67	61	68	62	57	62	58	54	57	54	50	47
4	80	68	60	53	76	65	58	52	60	54	49	56	50	46	51	47	43	41
5	73	61	52	46	70	59	51	45	54	48	42	50	45	40	46	42	38	35
6	68	55	46	40	64	53	45	39	49	42	37	45	40	35	42	37	33	31
7	63	50	41	35	60	48	40	35	45	38	33	41	36	31	38	34	30	28
8	58	45	37	32	56	44	36	31	41	34	29	38	32	28	35	30	27	25
9	54	41	34	28	52	40	33	28	37	31	27	35	29	25	33	28	24	22
10	51	38	31	26	49	37	30	25	35	28	24	32	27	23	30	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12745	12745	12745
5°	12783	12630	12721
10°	12703	12527	12588
15°	12549	12349	12380
20°	12345	12128	12138
25°	12113	11875	11843
30°	11828	11580	11473
35°	11532	11269	11121
40°	11225	10918	10718
45°	10904	10572	10369
50°	10550	10262	9946
55°	10166	9864	9543
60°	9783	9415	9131
65°	9352	8990	8627
70°	8868	8419	8091
75°	8125	7735	7536
80°	7234	6936	6760
85°	6326	6095	5974



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.7	2.9
10°-20°	418.9	8.2
20°-30°	616.5	12.1
30°-40°	716.7	14.1
40°-50°	716.8	14.1
50°-60°	627.0	12.3
60°-70°	465.6	9.2
70°-80°	264.5	5.2
80°-90°	77.1	1.5
90°-100°	102.9	2.0
100°-110°	214.2	4.2
110°-120°	191.9	3.8
120°-130°	161.4	3.2
130°-140°	134.6	2.6
140°-150°	102.8	2.0
150°-160°	72.3	1.4
160°-170°	42.5	0.8
170°-180°	13.8	0.3
0°-30°	1184.1	23.3
0°-40°	1900.8	37.4
0°-60°	3244.6	63.8
0°-90°	4051.9	79.6
90°-120°	509.0	10.0
90°-150°	907.8	17.8
90°-180°	1036.0	20.4
0°-180°	5088.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1579	1579	1579	1579	1579	
5°	1577	1572	1558	1571	1570	150
15°	1502	1496	1478	1484	1481	423
25°	1360	1350	1333	1334	1330	625
35°	1170	1161	1144	1135	1128	731
45°	955	946	926	913	908	736
55°	722	718	701	686	678	647
65°	490	483	471	458	452	485
75°	260	254	248	243	242	277
85°	68	68	66	66	64	75
90°	0	2	5	6	6	4
95°	9	29	228	113	68	10
105°	33	47	184	396	394	35
115°	58	72	164	315	378	57
125°	80	96	163	268	302	72
135°	96	114	162	238	270	74
145°	110	126	161	200	220	69
155°	125	135	156	177	184	58
165°	136	141	150	159	161	38
175°	142	142	144	146	145	13
180°	142	142	142	142	142	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7
2.5°	1582.7	1582.1	1581.4	1580.7	1580.0	1578.4	1576.0	1573.5	1571.1	1568.6	1570.8
5°	1577.4	1576.3	1575.2	1574.1	1573.0	1570.8	1567.7	1564.6	1561.5	1558.5	1561.5
7.5°	1562.7	1561.6	1560.5	1559.3	1558.2	1556.0	1552.5	1549.1	1545.7	1542.2	1544.8
10°	1549.6	1548.5	1547.4	1546.2	1545.1	1542.7	1539.1	1535.4	1531.8	1528.1	1530.3
12.5°	1532.4	1531.3	1530.1	1529.0	1527.9	1525.3	1521.5	1517.7	1513.8	1509.9	1512.4
15°	1501.5	1500.4	1499.3	1498.2	1497.0	1494.4	1490.1	1485.9	1481.7	1477.5	1479.2
17.5°	1464.3	1462.9	1461.5	1460.2	1458.7	1456.0	1452.0	1448.0	1444.1	1440.0	1441.1
20°	1437.0	1435.6	1434.2	1432.8	1431.4	1428.5	1424.3	1420.1	1415.9	1411.7	1412.5
22.5°	1407.6	1405.8	1404.0	1402.1	1400.3	1397.2	1393.0	1388.8	1384.6	1380.3	1381.9
25°	1359.9	1357.9	1355.9	1353.9	1351.9	1349.0	1345.0	1341.2	1337.2	1333.2	1333.6
27.5°	1305.2	1303.1	1301.2	1299.1	1297.1	1294.3	1290.6	1287.0	1283.3	1279.6	1279.0
30°	1268.8	1266.5	1264.2	1262.0	1259.8	1256.8	1253.2	1249.5	1245.9	1242.2	1241.1
32.5°	1230.3	1228.3	1226.3	1224.2	1222.2	1219.2	1215.4	1211.5	1207.6	1203.7	1202.4
35°	1170.1	1168.2	1166.2	1164.2	1162.2	1159.3	1155.3	1151.4	1147.5	1143.5	1141.5
37.5°	1106.6	1104.8	1103.0	1101.2	1099.4	1096.4	1092.2	1088.0	1083.7	1079.5	1077.4
40°	1065.1	1062.9	1060.6	1058.4	1056.1	1052.9	1048.7	1044.4	1040.2	1036.0	1033.2
42.5°	1020.6	1019.2	1017.9	1016.5	1015.2	1012.2	1007.5	1002.8	998.1	993.5	990.2
45°	955.1	953.1	951.1	949.1	947.2	944.0	939.4	934.9	930.4	926.0	922.9
47.5°	886.5	885.1	883.8	882.4	881.1	878.4	874.2	870.1	865.9	861.7	858.3
50°	840.0	838.8	837.7	836.5	835.4	832.9	828.9	825.1	821.1	817.1	813.3
52.5°	794.4	793.1	791.7	790.4	789.0	786.2	782.1	777.9	773.8	769.6	766.1
55°	722.3	721.4	720.6	719.8	718.9	716.5	712.6	708.7	704.7	700.8	697.4
57.5°	653.5	652.5	651.6	650.6	649.7	647.2	643.3	639.4	635.6	631.7	628.5
60°	605.9	604.5	603.1	601.7	600.3	597.8	594.1	590.5	586.8	583.1	580.6
62.5°	559.4	558.2	557.0	555.8	554.7	552.2	548.3	544.4	540.5	536.6	534.3
65°	489.6	488.1	486.7	485.3	483.9	481.8	479.0	476.2	473.4	470.6	467.8
67.5°	419.2	418.0	416.6	415.3	414.1	412.0	409.3	406.6	403.9	401.2	398.5
70°	375.7	373.8	371.8	369.8	367.8	365.8	363.5	361.2	358.9	356.7	354.5
72.5°	329.2	327.2	325.2	323.2	321.3	319.4	317.6	315.8	314.0	312.2	310.4
75°	260.5	259.2	257.8	256.4	254.9	253.6	252.2	250.7	249.4	248.0	246.8
77.5°	195.0	194.4	193.8	193.2	192.6	191.6	190.4	189.2	188.0	186.7	186.4
80°	155.6	154.7	153.9	153.0	152.3	151.5	151.0	150.4	149.8	149.2	148.7
82.5°	117.2	116.8	116.4	116.0	115.6	115.3	115.2	115.1	114.9	114.9	114.5
85°	68.3	68.3	68.3	68.3	68.3	68.0	67.5	66.9	66.3	65.8	65.8
87.5°	26.4	26.2	26.2	26.1	25.8	25.7	25.7	25.5	25.4	25.3	25.3
90°	0.3	0.9	1.7	2.0	2.2	2.2	3.9	3.9	4.5	5.1	4.8
92.5°	3.2	4.7	7.3	10.7	14.8	20.6	34.9	56.6	77.7	88.8	74.0
95°	9.3	10.1	12.9	16.6	23.2	35.0	59.3	105.3	172.2	228.1	234.6
97.5°	16.6	16.6	19.0	22.3	28.1	37.9	56.7	94.7	161.1	240.3	294.8
100°	21.3	21.3	23.2	26.6	31.9	40.9	57.4	89.0	146.2	225.1	296.8
102.5°	25.7	26.2	28.0	31.1	36.2	44.7	59.7	87.5	136.1	206.0	280.0
105°	32.8	33.6	35.0	38.3	43.4	51.5	65.0	88.2	127.4	183.6	249.5
107.5°	40.5	41.0	42.5	46.0	50.9	58.9	71.1	92.4	125.8	171.1	224.8
110°	45.6	46.2	47.6	50.9	56.0	63.5	75.9	95.5	126.3	166.8	212.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	50.5	51.1	52.8	55.8	60.9	68.4	80.3	98.9	127.6	164.9	205.6
115°	57.7	58.5	60.4	63.3	68.6	76.1	87.4	104.2	130.2	163.8	199.1
117.5°	65.0	65.8	67.6	70.7	75.7	83.5	94.1	109.6	132.9	163.5	196.1
120°	70.0	70.6	72.5	75.6	80.3	88.2	98.9	113.4	135.0	163.5	194.6
122.5°	74.5	75.0	77.0	79.9	85.1	92.7	103.3	117.0	137.0	163.3	192.8
125°	80.3	81.4	83.2	86.3	91.6	99.4	109.5	122.3	140.0	163.0	189.8
127.5°	85.6	86.4	88.5	92.0	97.5	105.4	115.2	127.0	142.4	162.3	185.8
130°	88.5	89.6	91.8	96.0	101.3	109.5	119.0	129.9	144.2	162.1	183.4
132.5°	91.4	92.3	95.2	99.2	105.0	112.6	122.2	132.8	145.8	161.9	181.2
135°	95.5	96.6	99.4	104.2	110.0	117.3	126.5	136.7	148.1	161.5	177.8
137.5°	99.6	100.6	103.7	108.2	114.3	121.3	129.9	139.3	149.5	161.5	174.9
140°	102.5	103.3	106.4	111.1	117.0	123.7	132.1	141.1	150.6	161.3	173.3
142.5°	105.6	106.5	109.3	113.8	119.5	126.0	134.2	142.4	151.5	161.3	172.0
145°	110.0	110.9	113.7	117.6	122.9	129.0	136.3	143.9	152.0	160.7	169.7
147.5°	115.0	115.3	117.8	121.8	126.2	131.7	138.6	145.2	152.3	159.7	167.6
150°	118.1	118.4	120.6	124.1	128.3	133.6	139.7	145.8	152.3	159.0	166.0
152.5°	121.0	121.1	123.3	126.5	130.2	135.1	140.6	146.3	151.9	157.9	164.2
155°	125.2	125.4	127.1	129.9	133.0	137.2	142.0	146.7	151.2	156.2	161.5
157.5°	129.1	129.1	130.7	132.8	135.5	138.9	142.9	146.7	150.4	154.5	158.8
160°	131.6	131.6	132.7	134.7	136.9	140.0	143.4	146.7	149.8	153.1	156.8
162.5°	133.8	133.6	134.5	136.3	138.2	140.7	143.8	146.7	149.1	151.8	155.0
165°	136.3	136.3	136.9	138.3	139.7	141.4	143.9	146.2	147.8	149.8	152.0
167.5°	138.9	138.6	138.9	139.9	140.7	142.0	143.9	145.4	146.5	147.7	149.3
170°	140.0	139.7	140.0	140.9	141.4	142.2	143.6	145.0	145.6	146.4	147.6
172.5°	141.1	140.9	140.9	141.5	141.8	142.4	143.4	144.6	144.7	145.0	146.0
175°	142.2	142.0	142.0	142.2	142.5	142.5	143.1	143.9	143.6	143.6	144.2
177.5°	142.8	142.5	142.3	142.5	142.5	142.5	142.8	143.1	142.8	142.8	143.0
180°	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7
2.5°	1573.0	1575.3	1577.6	1578.6	1578.3	1578.1	1577.9	1577.6
5°	1564.6	1567.7	1570.8	1572.1	1571.5	1571.0	1570.4	1569.8
7.5°	1547.2	1549.7	1552.1	1553.2	1552.9	1552.5	1552.2	1551.9
10°	1532.6	1534.9	1537.1	1537.9	1537.4	1536.8	1536.2	1535.6
12.5°	1514.8	1517.3	1519.8	1520.6	1519.8	1519.0	1518.2	1517.4
15°	1480.8	1482.6	1484.2	1484.6	1483.8	1483.0	1482.1	1481.3
17.5°	1442.2	1443.3	1444.3	1444.5	1444.0	1443.4	1442.9	1442.3
20°	1413.4	1414.2	1415.1	1415.2	1414.7	1414.1	1413.6	1412.9
22.5°	1383.4	1384.9	1386.4	1386.6	1385.7	1384.7	1383.6	1382.6
25°	1333.9	1334.1	1334.4	1334.0	1332.8	1331.7	1330.6	1329.5
27.5°	1278.3	1277.6	1276.9	1275.9	1274.5	1273.1	1271.7	1270.3
30°	1239.9	1238.8	1237.7	1236.4	1235.0	1233.7	1232.2	1230.8
32.5°	1201.0	1199.7	1198.3	1197.0	1195.6	1194.1	1192.8	1191.4
35°	1139.6	1137.7	1135.7	1134.0	1132.6	1131.2	1129.7	1128.4
37.5°	1075.2	1073.1	1071.0	1069.0	1067.1	1065.2	1063.4	1061.5
40°	1030.4	1027.5	1024.8	1022.6	1021.3	1019.9	1018.4	1017.0
42.5°	987.0	983.7	980.5	978.3	977.4	976.4	975.5	974.5
45°	919.8	916.7	913.6	911.6	910.8	909.9	909.1	908.2
47.5°	854.8	851.3	847.8	844.9	842.8	840.7	838.5	836.4
50°	809.3	805.3	801.5	798.6	796.9	795.3	793.5	791.9
52.5°	762.6	759.1	755.7	752.9	750.8	748.6	746.5	744.3
55°	694.0	690.7	687.3	684.8	683.1	681.4	679.7	678.0
57.5°	625.3	622.1	618.9	616.5	614.9	613.2	611.6	610.0
60°	578.1	575.6	573.1	571.1	569.7	568.2	566.9	565.5
62.5°	532.0	529.7	527.4	525.5	524.1	522.7	521.3	519.9
65°	464.9	462.2	459.3	457.2	455.8	454.4	453.0	451.6
67.5°	395.9	393.2	390.5	388.9	388.5	388.1	387.7	387.3
70°	352.2	350.0	347.7	346.2	345.3	344.5	343.6	342.8
72.5°	308.6	306.8	305.0	303.6	302.9	302.0	301.1	300.3
75°	245.7	244.5	243.4	242.7	242.5	242.2	241.9	241.6
77.5°	186.0	185.7	185.4	184.8	184.1	183.4	182.6	181.9
80°	148.1	147.6	147.0	146.6	146.3	146.0	145.8	145.4
82.5°	114.2	113.8	113.5	113.2	112.9	112.6	112.3	112.1
85°	65.8	65.8	65.8	65.7	65.4	65.0	64.8	64.5
87.5°	25.3	25.3	25.4	25.4	25.4	25.5	25.4	25.4
90°	5.1	5.3	5.6	5.6	5.9	6.2	5.9	5.9
92.5°	55.0	41.4	33.0	27.3	24.0	22.5	21.5	21.5
95°	207.5	164.1	126.5	99.4	85.6	77.0	71.9	68.3
97.5°	306.5	290.4	263.0	233.8	213.7	196.9	188.5	182.6
100°	337.6	343.3	329.5	308.8	284.5	267.4	259.0	256.7
102.5°	336.1	363.8	367.8	359.2	344.3	331.9	323.1	321.2
105°	313.5	362.0	389.8	401.2	401.8	399.5	395.6	394.0
107.5°	281.6	333.2	372.2	397.2	411.0	417.4	420.2	420.9
110°	262.4	310.8	351.4	382.1	402.0	413.8	418.8	421.4



TEST NUMBER: P332678-927

CATALOG NUMBER: SA4XXDIP-C1195D365U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	248.2	291.0	329.4	360.2	382.8	397.0	404.1	408.1
115°	234.1	268.5	301.3	328.1	350.2	367.0	376.0	378.3
117.5°	227.1	255.6	281.4	304.2	323.1	337.2	346.2	347.9
120°	223.9	250.0	272.4	292.3	308.2	320.6	327.9	331.0
122.5°	221.3	246.4	266.8	284.2	297.7	308.2	314.4	317.5
125°	216.7	240.7	260.1	275.5	286.7	294.9	300.2	301.8
127.5°	211.1	234.1	253.4	268.0	279.2	286.5	291.0	292.6
130°	206.6	228.8	247.8	262.6	274.1	281.1	285.6	287.2
132.5°	201.9	222.7	241.3	256.1	267.4	275.3	279.6	281.2
135°	195.4	213.7	230.7	244.7	255.9	263.7	268.2	269.9
137.5°	189.6	204.9	219.4	232.0	242.5	250.2	253.9	255.9
140°	186.2	199.3	211.9	223.7	233.5	239.6	243.6	245.8
142.5°	183.1	194.6	205.4	215.6	224.3	230.0	233.5	235.0
145°	178.6	188.1	196.5	204.4	211.4	216.1	219.0	220.3
147.5°	175.0	182.5	189.3	195.4	200.6	204.7	206.8	207.3
150°	172.8	179.2	184.8	189.8	194.3	198.0	199.6	199.9
152.5°	170.3	175.9	181.0	185.1	188.9	191.9	192.9	193.2
155°	166.6	171.0	175.2	178.6	181.4	183.6	184.5	184.5
157.5°	162.6	166.4	169.9	172.6	174.7	176.4	176.9	176.9
160°	160.2	163.2	166.3	168.6	170.2	171.9	172.2	172.2
162.5°	157.7	160.3	162.7	164.8	166.0	167.6	167.9	167.7
165°	154.2	156.0	157.9	159.3	160.4	161.5	161.3	161.0
167.5°	151.0	152.3	153.8	154.6	155.2	156.0	155.9	155.7
170°	148.9	149.8	150.9	151.8	152.3	152.6	152.3	152.3
172.5°	147.2	147.7	148.5	149.1	149.4	149.6	149.4	148.9
175°	144.7	145.0	145.6	145.6	145.6	146.2	145.6	145.0
177.5°	143.1	143.4	143.4	143.6	143.4	143.6	143.1	142.8
180°	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5

(END OF REPORT)