

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: P332678-935

Luminaire Tested: **SA4XXDIP-C1195D365U935-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332678-935
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-C1195D365U935-4F0-1E-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

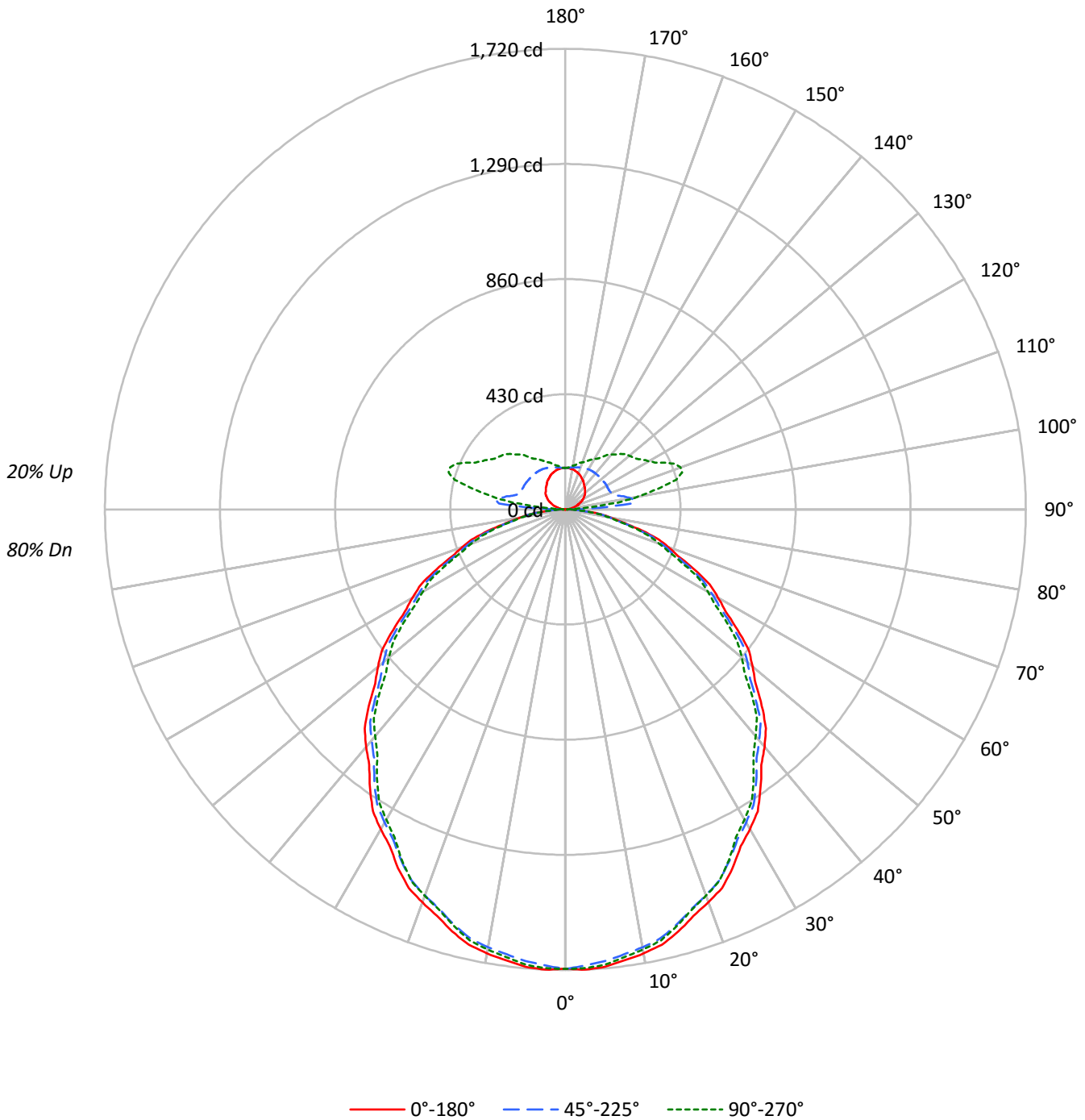
Lumens per Lamp: N/A
Luminaire Lumens: 5530.4 lumens
Efficiency: N/A
Efficacy: 111.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

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	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°	13852	13852	13852
5°	13893	13726	13827
10°	13806	13615	13682
15°	13639	13422	13456
20°	13418	13181	13193
25°	13165	12908	12871
30°	12855	12585	12470
35°	12534	12249	12086
40°	12199	11866	11649
45°	11851	11490	11270
50°	11465	11154	10810
55°	11050	10719	10372
60°	10634	10233	9923
65°	10164	9769	9377
70°	9640	9151	8795
75°	8833	8406	8191
80°	7861	7541	7350
85°	6873	6623	6493



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.6	2.9
10°-20°	455.3	8.2
20°-30°	670.1	12.1
30°-40°	779.0	14.1
40°-50°	779.1	14.1
50°-60°	681.5	12.3
60°-70°	506.1	9.2
70°-80°	287.5	5.2
80°-90°	83.8	1.5
90°-100°	111.9	2.0
100°-110°	232.8	4.2
110°-120°	208.5	3.8
120°-130°	175.4	3.2
130°-140°	146.3	2.6
140°-150°	111.7	2.0
150°-160°	78.5	1.4
160°-170°	46.2	0.8
170°-180°	15.0	0.3
0°-30°	1287.0	23.3
0°-40°	2066.0	37.4
0°-60°	3526.5	63.8
0°-90°	4403.9	79.6
90°-120°	553.3	10.0
90°-150°	986.7	17.8
90°-180°	1126.0	20.4
0°-180°	5530.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1716	1716	1716	1716	1716	
5°	1714	1708	1694	1708	1706	163
15°	1632	1626	1606	1613	1610	460
25°	1478	1468	1449	1450	1445	680
35°	1272	1262	1243	1233	1226	795
45°	1038	1028	1006	992	987	800
55°	785	780	762	746	737	703
65°	532	525	511	498	491	527
75°	283	276	270	264	263	301
85°	74	74	72	71	70	82
90°	0	2	6	6	6	4
95°	10	32	248	123	74	11
105°	36	52	200	430	428	38
115°	63	79	178	342	411	62
125°	87	104	177	291	328	78
135°	104	124	176	258	293	80
145°	120	137	175	218	239	75
155°	136	147	170	192	200	63
165°	148	153	163	172	175	42
175°	154	155	156	158	158	15
180°	155	155	155	155	155	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8
2.5°	1720.2	1719.5	1718.7	1718.0	1717.3	1715.5	1712.9	1710.2	1707.5	1704.9	1707.3
5°	1714.4	1713.2	1712.0	1710.8	1709.6	1707.3	1703.9	1700.6	1697.2	1693.8	1697.2
7.5°	1698.5	1697.3	1696.1	1694.8	1693.6	1691.2	1687.4	1683.7	1680.0	1676.2	1679.0
10°	1684.2	1683.0	1681.8	1680.5	1679.3	1676.7	1672.8	1668.8	1664.8	1660.9	1663.3
12.5°	1665.5	1664.3	1663.0	1661.8	1660.6	1657.9	1653.7	1649.5	1645.3	1641.1	1643.7
15°	1631.9	1630.7	1629.5	1628.3	1627.0	1624.2	1619.5	1615.0	1610.4	1605.9	1607.7
17.5°	1591.6	1590.0	1588.5	1587.0	1585.4	1582.5	1578.1	1573.8	1569.5	1565.1	1566.3
20°	1561.9	1560.3	1558.8	1557.3	1555.7	1552.6	1548.1	1543.5	1539.0	1534.3	1535.2
22.5°	1529.9	1527.9	1526.0	1523.9	1521.9	1518.5	1514.0	1509.4	1504.9	1500.2	1501.9
25°	1478.0	1475.8	1473.7	1471.5	1469.4	1466.2	1461.9	1457.7	1453.4	1449.1	1449.4
27.5°	1418.6	1416.3	1414.2	1412.0	1409.8	1406.7	1402.7	1398.8	1394.8	1390.8	1390.1
30°	1379.0	1376.6	1374.1	1371.7	1369.2	1366.0	1362.0	1358.1	1354.1	1350.1	1348.9
32.5°	1337.2	1335.0	1332.8	1330.6	1328.4	1325.2	1320.9	1316.7	1312.5	1308.3	1306.8
35°	1271.8	1269.6	1267.5	1265.3	1263.2	1260.0	1255.7	1251.5	1247.2	1242.9	1240.7
37.5°	1202.7	1200.8	1198.9	1196.9	1194.9	1191.6	1187.1	1182.5	1177.8	1173.3	1171.0
40°	1157.6	1155.2	1152.7	1150.3	1147.9	1144.4	1139.8	1135.1	1130.6	1126.0	1122.9
42.5°	1109.2	1107.8	1106.3	1104.8	1103.4	1100.1	1095.0	1089.9	1084.9	1079.8	1076.2
45°	1038.0	1035.9	1033.7	1031.6	1029.5	1026.0	1021.1	1016.2	1011.2	1006.4	1003.1
47.5°	963.5	962.0	960.5	959.1	957.6	954.7	950.1	945.6	941.1	936.6	932.8
50°	912.9	911.7	910.4	909.2	908.0	905.3	901.0	896.7	892.4	888.1	883.9
52.5°	863.4	861.9	860.5	859.0	857.6	854.5	850.1	845.5	841.0	836.5	832.7
55°	785.1	784.1	783.3	782.3	781.4	778.8	774.5	770.3	765.9	761.6	758.0
57.5°	710.2	709.2	708.2	707.1	706.1	703.4	699.2	695.0	690.8	686.6	683.1
60°	658.6	657.0	655.5	654.0	652.5	649.7	645.8	641.8	637.7	633.8	631.0
62.5°	608.0	606.7	605.4	604.1	602.9	600.1	595.9	591.7	587.5	583.2	580.7
65°	532.1	530.5	529.0	527.4	526.0	523.7	520.6	517.5	514.5	511.4	508.4
67.5°	455.6	454.3	452.8	451.4	450.0	447.8	444.9	442.0	439.0	436.1	433.2
70°	408.4	406.2	404.1	401.9	399.8	397.5	395.0	392.6	390.1	387.7	385.3
72.5°	357.7	355.6	353.4	351.3	349.2	347.2	345.2	343.2	341.3	339.3	337.3
75°	283.2	281.7	280.2	278.6	277.1	275.6	274.1	272.5	271.0	269.5	268.3
77.5°	212.0	211.3	210.7	210.0	209.3	208.3	207.0	205.6	204.3	202.9	202.6
80°	169.1	168.2	167.3	166.3	165.5	164.7	164.1	163.4	162.8	162.2	161.6
82.5°	127.3	126.9	126.5	126.1	125.6	125.4	125.2	125.1	124.9	124.8	124.5
85°	74.2	74.2	74.2	74.2	74.2	74.0	73.4	72.8	72.1	71.5	71.5
87.5°	28.7	28.5	28.5	28.3	28.1	27.9	28.0	27.7	27.6	27.5	27.5
90°	0.3	0.9	1.8	2.2	2.4	2.4	4.2	4.2	4.9	5.5	5.2
92.5°	3.4	5.1	7.9	11.6	16.1	22.4	37.9	61.5	84.5	96.5	80.4
95°	10.1	10.9	14.0	18.0	25.2	38.1	64.5	114.4	187.2	248.0	255.0
97.5°	18.0	18.0	20.7	24.3	30.6	41.2	61.6	102.9	175.1	261.2	320.4
100°	23.2	23.2	25.2	28.9	34.7	44.4	62.4	96.8	158.9	244.7	322.5
102.5°	28.0	28.5	30.4	33.8	39.3	48.6	64.8	95.1	147.9	223.9	304.3
105°	35.6	36.5	38.1	41.7	47.2	56.0	70.6	95.8	138.4	199.6	271.1
107.5°	44.0	44.6	46.1	50.0	55.3	64.0	77.3	100.4	136.7	186.0	244.4
110°	49.6	50.2	51.7	55.4	60.9	69.1	82.5	103.8	137.2	181.3	231.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	54.9	55.5	57.3	60.7	66.2	74.4	87.3	107.5	138.7	179.2	223.4
115°	62.7	63.6	65.7	68.8	74.6	82.7	95.0	113.2	141.5	178.1	216.4
117.5°	70.7	71.5	73.4	76.8	82.2	90.7	102.3	119.1	144.5	177.7	213.2
120°	76.1	76.7	78.8	82.1	87.3	95.8	107.5	123.2	146.7	177.7	211.5
122.5°	80.9	81.5	83.7	86.8	92.5	100.7	112.3	127.2	148.9	177.5	209.6
125°	87.3	88.5	90.4	93.8	99.5	108.1	119.0	132.9	152.1	177.1	206.3
127.5°	93.0	93.9	96.2	100.0	106.0	114.6	125.2	138.0	154.8	176.4	202.0
130°	96.2	97.4	99.8	104.4	110.1	119.0	129.3	141.2	156.7	176.2	199.3
132.5°	99.4	100.3	103.5	107.8	114.1	122.3	132.8	144.4	158.4	176.0	196.9
135°	103.8	105.0	108.1	113.2	119.6	127.5	137.5	148.5	161.0	175.6	193.2
137.5°	108.2	109.3	112.7	117.6	124.2	131.8	141.2	151.4	162.5	175.6	190.1
140°	111.4	112.3	115.6	120.8	127.2	134.5	143.6	153.3	163.7	175.3	188.4
142.5°	114.8	115.7	118.8	123.7	129.8	136.9	145.9	154.8	164.7	175.3	186.9
145°	119.6	120.5	123.6	127.8	133.6	140.3	148.2	156.4	165.2	174.7	184.4
147.5°	125.0	125.3	128.0	132.3	137.2	143.2	150.6	157.8	165.6	173.6	182.2
150°	128.4	128.7	131.1	134.8	139.4	145.2	151.9	158.5	165.6	172.8	180.5
152.5°	131.6	131.6	134.1	137.5	141.5	146.9	152.8	159.0	165.1	171.6	178.5
155°	136.0	136.3	138.2	141.2	144.6	149.1	154.3	159.5	164.4	169.8	175.6
157.5°	140.3	140.3	142.1	144.4	147.3	150.9	155.3	159.5	163.5	167.9	172.6
160°	143.0	143.0	144.2	146.4	148.8	152.1	155.8	159.5	162.8	166.4	170.4
162.5°	145.4	145.3	146.2	148.1	150.2	152.9	156.3	159.5	162.0	165.0	168.5
165°	148.2	148.2	148.8	150.3	151.9	153.7	156.4	158.9	160.7	162.8	165.2
167.5°	150.9	150.6	150.9	152.1	152.9	154.4	156.4	158.1	159.2	160.6	162.3
170°	152.1	151.9	152.1	153.1	153.7	154.5	156.1	157.6	158.3	159.1	160.4
172.5°	153.3	153.1	153.1	153.8	154.1	154.8	155.8	157.1	157.3	157.6	158.7
175°	154.5	154.3	154.3	154.5	154.9	154.9	155.5	156.4	156.1	156.1	156.7
177.5°	155.2	154.9	154.6	154.9	154.9	154.9	155.2	155.6	155.2	155.2	155.4
180°	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8
2.5°	1709.7	1712.2	1714.6	1715.7	1715.5	1715.2	1714.9	1714.7
5°	1700.6	1703.9	1707.3	1708.7	1708.1	1707.4	1706.8	1706.2
7.5°	1681.6	1684.3	1687.0	1688.2	1687.8	1687.4	1687.0	1686.7
10°	1665.7	1668.2	1670.6	1671.5	1670.9	1670.3	1669.7	1669.0
12.5°	1646.4	1649.1	1651.8	1652.7	1651.8	1651.0	1650.1	1649.2
15°	1609.5	1611.4	1613.2	1613.6	1612.7	1611.8	1610.8	1610.0
17.5°	1567.5	1568.7	1569.8	1570.0	1569.4	1568.8	1568.2	1567.6
20°	1536.2	1537.1	1538.0	1538.2	1537.6	1537.0	1536.4	1535.7
22.5°	1503.6	1505.2	1506.8	1507.1	1506.1	1504.9	1503.8	1502.7
25°	1449.8	1450.0	1450.4	1449.8	1448.6	1447.4	1446.2	1445.0
27.5°	1389.3	1388.6	1387.8	1386.7	1385.2	1383.7	1382.2	1380.6
30°	1347.6	1346.4	1345.2	1343.8	1342.3	1340.8	1339.3	1337.7
32.5°	1305.4	1303.9	1302.4	1301.0	1299.4	1297.9	1296.4	1294.9
35°	1238.6	1236.5	1234.3	1232.5	1231.0	1229.4	1227.9	1226.4
37.5°	1168.6	1166.3	1164.0	1161.8	1159.9	1157.8	1155.8	1153.7
40°	1119.9	1116.8	1113.8	1111.5	1110.0	1108.5	1106.9	1105.4
42.5°	1072.7	1069.2	1065.7	1063.3	1062.3	1061.3	1060.2	1059.2
45°	999.7	996.3	993.0	990.8	989.9	988.9	988.1	987.1
47.5°	929.0	925.2	921.4	918.3	916.0	913.7	911.4	909.0
50°	879.6	875.3	871.1	868.0	866.2	864.4	862.5	860.7
52.5°	828.9	825.1	821.3	818.3	816.0	813.6	811.3	809.0
55°	754.3	750.7	747.0	744.2	742.4	740.6	738.7	736.9
57.5°	679.7	676.1	672.7	670.0	668.3	666.5	664.7	663.0
60°	628.3	625.6	622.8	620.7	619.1	617.6	616.1	614.6
62.5°	578.2	575.7	573.2	571.2	569.6	568.1	566.6	565.1
65°	505.3	502.3	499.2	497.0	495.4	493.9	492.3	490.9
67.5°	430.2	427.3	424.4	422.7	422.2	421.8	421.4	420.9
70°	382.8	380.4	377.9	376.3	375.3	374.4	373.5	372.6
72.5°	335.4	333.5	331.5	330.0	329.2	328.2	327.3	326.4
75°	267.0	265.8	264.6	263.8	263.6	263.2	262.9	262.6
77.5°	202.2	201.8	201.5	200.9	200.1	199.3	198.5	197.7
80°	161.0	160.4	159.8	159.4	159.0	158.7	158.4	158.1
82.5°	124.1	123.7	123.4	123.0	122.7	122.4	122.1	121.8
85°	71.5	71.5	71.5	71.4	71.0	70.7	70.4	70.1
87.5°	27.5	27.6	27.6	27.6	27.6	27.7	27.6	27.6
90°	5.5	5.8	6.1	6.1	6.4	6.7	6.4	6.4
92.5°	59.8	44.9	35.8	29.7	26.1	24.5	23.4	23.4
95°	225.5	178.3	137.5	108.1	93.1	83.7	78.2	74.2
97.5°	333.1	315.6	285.9	254.1	232.2	214.0	204.8	198.5
100°	367.0	373.1	358.2	335.6	309.2	290.6	281.5	279.1
102.5°	365.3	395.5	399.8	390.4	374.2	360.8	351.1	349.1
105°	340.8	393.5	423.6	436.1	436.7	434.2	430.0	428.2
107.5°	306.1	362.1	404.5	431.7	446.7	453.7	456.7	457.4
110°	285.2	337.8	381.9	415.3	437.0	449.8	455.2	458.0



TEST NUMBER: P332678-935

CATALOG NUMBER: SA4XXDIP-C1195D365U935-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	269.8	316.3	358.0	391.5	416.0	431.5	439.2	443.6
115°	254.4	291.8	327.4	356.6	380.6	398.9	408.7	411.1
117.5°	246.8	277.8	305.8	330.6	351.1	366.4	376.3	378.2
120°	243.4	271.7	296.1	317.7	335.0	348.4	356.4	359.7
122.5°	240.5	267.9	290.0	308.9	323.6	335.0	341.7	345.1
125°	235.6	261.7	282.7	299.5	311.6	320.5	326.2	328.0
127.5°	229.5	254.4	275.4	291.3	303.5	311.3	316.2	318.1
130°	224.5	248.7	269.3	285.4	297.9	305.5	310.4	312.2
132.5°	219.5	242.0	262.3	278.4	290.6	299.2	303.8	305.7
135°	212.4	232.2	250.7	266.0	278.1	286.6	291.5	293.3
137.5°	206.0	222.7	238.4	252.1	263.6	271.9	276.0	278.1
140°	202.3	216.6	230.3	243.1	253.8	260.5	264.8	267.2
142.5°	199.0	211.5	223.3	234.4	243.8	250.0	253.8	255.5
145°	194.2	204.5	213.6	222.1	229.7	234.9	238.0	239.4
147.5°	190.2	198.4	205.7	212.4	218.0	222.5	224.7	225.3
150°	187.8	194.8	200.9	206.3	211.2	215.2	217.0	217.2
152.5°	185.1	191.1	196.7	201.2	205.3	208.5	209.7	210.0
155°	181.1	185.9	190.5	194.2	197.2	199.6	200.5	200.5
157.5°	176.8	180.8	184.7	187.6	189.9	191.7	192.3	192.3
160°	174.1	177.4	180.7	183.2	185.0	186.8	187.2	187.2
162.5°	171.4	174.3	176.8	179.1	180.4	182.2	182.5	182.3
165°	167.6	169.5	171.6	173.1	174.4	175.6	175.3	175.0
167.5°	164.1	165.5	167.2	168.1	168.7	169.5	169.4	169.2
170°	161.9	162.8	164.0	165.0	165.6	165.8	165.6	165.6
172.5°	160.0	160.6	161.4	162.0	162.4	162.6	162.4	161.9
175°	157.3	157.6	158.3	158.3	158.3	158.9	158.3	157.6
177.5°	155.6	155.8	155.8	156.1	155.8	156.1	155.6	155.2
180°	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9

(END OF REPORT)