

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: P332989-927

Luminaire Tested: **SA4XXRDIP-C1195D365U927-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332989-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C1195D365U927-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4822.2 lumens
Efficiency: N/A
Efficacy: 96.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

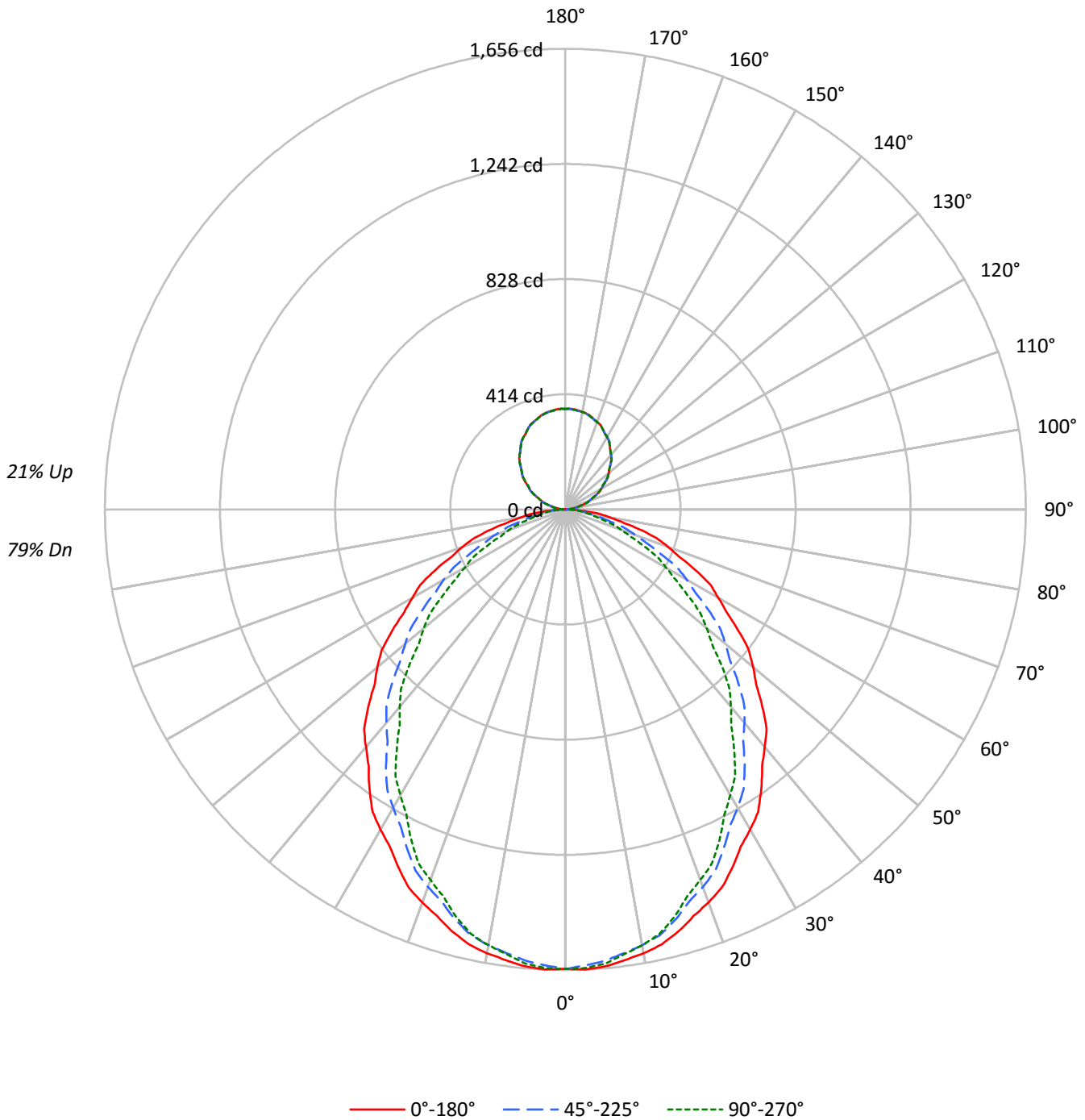
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	79
1	105	100	97	93	100	96	93	90	88	85	83	81	79	77	74	72	71	68
2	96	88	82	77	91	85	79	74	78	73	69	71	68	65	66	63	60	57
3	88	78	70	64	84	75	68	63	69	63	59	64	59	55	59	55	52	49
4	80	69	61	55	77	67	59	54	62	56	51	57	52	48	53	48	45	42
5	74	62	54	48	71	60	52	46	55	49	44	51	46	42	48	43	40	37
6	69	56	48	42	65	54	46	41	50	44	39	47	41	37	43	39	35	33
7	64	51	43	37	61	49	42	36	46	39	35	43	37	33	40	35	31	29
8	59	47	39	33	57	45	38	32	42	36	31	39	34	30	37	32	28	26
9	55	43	35	30	53	41	34	29	39	32	28	36	31	27	34	29	26	24
10	52	39	32	27	50	38	31	26	36	30	25	34	28	24	31	27	23	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13337	13337	13337
5°	13367	13203	13285
10°	13283	13045	13045
15°	13131	12771	12676
20°	12921	12411	12182
25°	12653	11989	11685
30°	12393	11544	11060
35°	12105	11083	10435
40°	11758	10559	9759
45°	11439	10038	9070
50°	11074	9437	8341
55°	10683	8812	7548
60°	10253	8128	6739
65°	9859	7272	5945
70°	9286	6331	5046
75°	8562	5250	4105
80°	7471	3998	3766
85°	6326	3631	3399



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.2	3.2
10°-20°	432.8	9.0
20°-30°	624.9	13.0
30°-40°	708.3	14.7
40°-50°	684.0	14.2
50°-60°	568.8	11.8
60°-70°	392.8	8.1
70°-80°	199.1	4.1
80°-90°	52.2	1.1
90°-100°	23.9	0.5
100°-110°	70.7	1.5
110°-120°	120.0	2.5
120°-130°	158.3	3.3
130°-140°	177.8	3.7
140°-150°	174.7	3.6
150°-160°	146.9	3.0
160°-170°	97.7	2.0
170°-180°	34.2	0.7
0°-30°	1212.9	25.2
0°-40°	1921.2	39.8
0°-60°	3174.0	65.8
0°-90°	3818.0	79.2
90°-120°	214.6	4.5
90°-150°	725.3	15.0
90°-180°	1004.0	20.8
0°-180°	4822.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1652	1652	1652	1652	1652	
5°	1650	1644	1629	1641	1639	156
15°	1571	1559	1528	1525	1517	442
25°	1420	1396	1346	1325	1312	654
35°	1228	1186	1125	1083	1059	767
45°	1002	953	879	819	794	772
55°	759	707	626	563	536	679
65°	516	460	381	328	311	509
75°	274	227	168	140	132	290
85°	68	44	39	37	37	77
90°	1	4	6	8	8	4
95°	17	19	21	22	22	19
105°	65	66	67	67	68	69
115°	122	122	122	121	121	120
125°	178	178	177	177	176	158
135°	229	231	231	230	230	177
145°	278	280	280	280	279	174
155°	319	319	319	320	319	147
165°	347	347	346	348	347	98
175°	361	360	360	362	360	34
180°	362	362	362	362	362	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0
2.5°	1656.1	1655.2	1654.3	1653.4	1652.5	1650.8	1648.4	1645.8	1643.4	1640.9	1643.4
5°	1649.5	1648.4	1647.3	1646.2	1645.0	1642.7	1639.4	1636.0	1632.7	1629.3	1632.1
7.5°	1634.6	1633.4	1632.2	1631.0	1629.8	1627.1	1622.7	1618.3	1613.9	1609.6	1611.4
10°	1620.4	1619.0	1617.6	1616.2	1614.8	1611.5	1606.5	1601.5	1596.4	1591.3	1592.4
12.5°	1602.2	1600.6	1598.9	1597.3	1595.7	1591.9	1585.9	1580.0	1574.0	1568.0	1568.8
15°	1571.1	1568.5	1566.1	1563.5	1561.0	1556.2	1549.2	1542.1	1535.1	1528.0	1527.5
17.5°	1533.4	1529.7	1526.1	1522.4	1518.8	1512.8	1504.3	1495.9	1487.4	1479.0	1477.4
20°	1504.0	1500.4	1496.7	1493.1	1489.5	1482.8	1473.3	1463.7	1454.1	1444.6	1442.3
22.5°	1471.6	1467.6	1463.5	1459.4	1455.2	1448.1	1437.8	1427.6	1417.4	1407.2	1403.7
25°	1420.5	1415.5	1410.4	1405.4	1400.3	1392.0	1380.5	1369.0	1357.5	1345.9	1341.2
27.5°	1366.9	1360.6	1354.2	1347.9	1341.5	1332.2	1319.9	1307.6	1295.2	1282.9	1277.0
30°	1329.5	1322.5	1315.4	1308.4	1301.4	1291.3	1278.0	1264.8	1251.6	1238.4	1231.4
32.5°	1290.0	1282.1	1274.1	1266.2	1258.3	1247.5	1233.8	1220.2	1206.5	1192.9	1184.7
35°	1228.3	1219.2	1210.3	1201.3	1192.3	1180.7	1166.7	1152.7	1138.6	1124.6	1115.0
37.5°	1162.3	1152.9	1143.7	1134.4	1125.1	1112.7	1097.2	1081.6	1066.0	1050.4	1039.7
40°	1115.7	1106.4	1097.2	1087.9	1078.6	1066.0	1050.0	1033.9	1017.9	1001.9	990.1
42.5°	1071.2	1061.4	1051.7	1042.0	1032.3	1019.1	1002.3	985.6	969.0	952.3	940.2
45°	1001.9	991.4	981.0	970.7	960.3	946.6	929.8	912.9	896.0	879.2	865.4
47.5°	930.3	919.5	908.8	898.0	887.3	873.1	855.6	838.0	820.5	803.0	788.7
50°	881.7	870.7	859.8	848.8	837.8	823.3	805.3	787.3	769.4	751.4	737.4
52.5°	832.1	821.3	810.6	799.9	789.2	774.5	756.1	737.7	719.2	700.8	686.5
55°	759.0	747.7	736.5	725.2	714.0	699.3	681.0	662.7	644.4	626.1	611.6
57.5°	686.6	674.9	663.2	651.6	639.8	625.0	607.0	589.0	571.0	553.0	538.2
60°	635.0	623.8	612.5	601.3	590.0	575.4	557.5	539.5	521.4	503.4	488.9
62.5°	588.4	576.8	565.1	553.4	541.7	526.6	508.2	489.7	471.3	452.9	439.3
65°	516.1	504.0	491.9	479.8	467.8	452.7	434.7	416.8	398.8	380.7	368.7
67.5°	440.9	429.4	417.8	406.2	394.7	380.5	363.8	347.1	330.4	313.7	303.3
70°	393.4	381.6	369.8	358.0	346.2	332.2	316.2	300.2	284.2	268.2	258.9
72.5°	342.8	332.2	321.5	310.8	300.1	287.2	272.0	256.9	241.8	226.6	218.7
75°	274.5	264.1	253.7	243.3	232.9	221.1	207.9	194.6	181.5	168.3	161.8
77.5°	205.2	196.4	187.5	178.7	169.8	160.1	149.4	138.8	128.1	117.4	113.6
80°	160.7	152.5	144.3	136.2	128.0	119.8	111.3	102.9	94.4	86.0	85.2
82.5°	122.2	114.7	107.3	99.7	92.3	86.1	81.3	76.4	71.6	66.8	66.1
85°	68.3	62.7	57.0	51.4	45.8	42.6	41.7	40.9	40.1	39.2	38.7
87.5°	23.4	21.8	20.1	18.5	16.8	15.9	15.8	15.7	15.5	15.4	15.2
90°	0.9	1.5	2.2	2.9	3.6	4.2	4.7	5.1	5.6	6.2	6.5
92.5°	6.0	6.8	7.5	8.3	9.1	9.7	10.1	10.4	10.8	11.1	11.3
95°	16.8	17.3	17.9	18.5	19.0	19.6	20.0	20.4	20.8	21.3	21.5
97.5°	29.3	29.8	30.3	30.7	31.1	31.6	32.1	32.6	33.1	33.7	33.9
100°	39.2	39.5	39.7	39.9	40.2	40.6	41.1	41.7	42.3	42.9	42.9
102.5°	49.5	49.6	49.7	49.8	49.9	50.2	50.7	51.3	51.7	52.2	52.4
105°	65.2	65.3	65.4	65.4	65.4	65.6	65.9	66.1	66.4	66.6	66.8
107.5°	81.8	81.8	81.9	82.0	82.1	82.1	82.1	82.1	82.2	82.2	82.4
110°	92.9	93.1	93.2	93.3	93.4	93.5	93.4	93.3	93.2	93.2	93.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	104.6	104.6	104.6	104.6	104.6	104.6	104.5	104.4	104.3	104.2	104.2
115°	122.1	122.1	122.1	122.1	122.1	122.0	121.8	121.8	121.6	121.5	121.4
117.5°	138.5	138.6	138.6	138.6	138.7	138.7	138.6	138.6	138.4	138.3	138.2
120°	149.5	149.7	150.0	150.2	150.5	150.5	150.4	150.1	150.0	149.8	149.5
122.5°	160.9	161.0	161.1	161.2	161.3	161.3	161.2	161.1	161.1	161.0	160.7
125°	177.8	177.8	177.8	177.8	177.8	177.7	177.7	177.6	177.5	177.4	177.4
127.5°	193.1	193.2	193.5	193.6	193.8	193.8	193.8	193.6	193.5	193.5	193.3
130°	203.8	204.0	204.1	204.4	204.5	204.6	204.6	204.6	204.6	204.6	204.5
132.5°	214.8	214.9	215.0	215.2	215.3	215.3	215.3	215.2	215.2	215.2	215.0
135°	229.3	229.7	230.0	230.4	230.8	230.9	230.9	230.9	230.9	230.9	230.8
137.5°	245.0	245.3	245.4	245.6	245.7	245.9	246.0	246.1	246.2	246.3	246.1
140°	255.6	255.7	255.8	256.0	256.1	256.1	256.1	256.1	256.1	256.1	256.1
142.5°	265.2	265.3	265.5	265.5	265.7	265.8	265.7	265.6	265.6	265.5	265.5
145°	278.5	278.8	279.0	279.2	279.6	279.7	279.7	279.8	279.9	280.0	279.9
147.5°	291.8	292.1	292.3	292.6	292.9	293.0	293.0	292.9	292.9	292.9	292.8
150°	299.8	300.1	300.3	300.6	300.8	301.0	301.0	301.0	301.0	301.0	301.0
152.5°	307.4	307.6	307.7	307.8	308.0	308.1	308.2	308.2	308.2	308.3	308.5
155°	319.1	319.1	319.1	319.1	319.1	319.1	319.0	318.9	318.9	318.9	319.1
157.5°	329.0	328.8	328.8	328.7	328.5	328.4	328.4	328.4	328.4	328.4	328.6
160°	334.8	334.7	334.7	334.6	334.5	334.5	334.5	334.4	334.3	334.2	334.5
162.5°	340.2	340.0	339.8	339.7	339.5	339.5	339.4	339.3	339.2	339.1	339.5
165°	347.4	347.2	347.1	346.8	346.7	346.5	346.3	346.3	346.1	346.0	346.3
167.5°	352.9	352.7	352.4	352.1	351.9	351.7	351.8	351.8	351.8	351.8	352.2
170°	356.1	355.8	355.5	355.1	354.8	354.7	354.7	354.8	354.9	355.0	355.3
172.5°	358.3	358.1	357.7	357.5	357.3	357.1	357.1	357.2	357.2	357.2	357.6
175°	361.4	361.1	360.8	360.4	360.1	360.0	359.9	359.8	359.8	359.7	360.1
177.5°	362.4	362.2	361.9	361.6	361.4	361.3	361.3	361.3	361.3	361.3	361.6
180°	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0
2.5°	1645.8	1648.4	1650.8	1651.9	1651.7	1651.5	1651.2	1651.1
5°	1634.9	1637.7	1640.5	1641.6	1641.1	1640.5	1640.0	1639.4
7.5°	1613.1	1614.9	1616.8	1617.2	1616.3	1615.4	1614.5	1613.6
10°	1593.6	1594.7	1595.9	1595.9	1594.7	1593.6	1592.4	1591.3
12.5°	1569.4	1570.1	1570.7	1570.3	1568.8	1567.2	1565.6	1564.0
15°	1526.9	1526.4	1525.8	1524.6	1522.6	1520.6	1518.7	1516.7
17.5°	1475.8	1474.3	1472.7	1470.4	1467.4	1464.4	1461.5	1458.5
20°	1440.1	1437.8	1435.6	1432.7	1429.0	1425.4	1421.7	1418.0
22.5°	1400.4	1397.0	1393.7	1390.5	1387.5	1384.5	1381.6	1378.6
25°	1336.3	1331.6	1326.8	1323.0	1320.2	1317.4	1314.5	1311.8
27.5°	1271.1	1265.2	1259.3	1254.3	1250.3	1246.3	1242.2	1238.2
30°	1224.3	1217.3	1210.3	1204.5	1200.0	1195.6	1191.0	1186.5
32.5°	1176.5	1168.4	1160.2	1154.1	1149.8	1145.5	1141.2	1136.9
35°	1105.4	1095.9	1086.3	1079.0	1074.0	1068.9	1063.8	1058.8
37.5°	1029.0	1018.4	1007.7	999.8	994.7	989.7	984.7	979.6
40°	978.3	966.5	954.7	946.2	941.1	936.0	931.1	926.0
42.5°	928.2	916.2	904.1	895.5	890.2	884.9	879.6	874.3
45°	851.6	837.8	824.0	814.6	809.6	804.5	799.5	794.4
47.5°	774.4	760.2	745.9	735.9	730.4	724.8	719.2	713.7
50°	723.3	709.2	695.1	685.5	680.2	674.8	669.5	664.1
52.5°	672.2	658.0	643.6	633.7	628.2	622.7	617.0	611.5
55°	596.9	582.3	567.7	557.7	552.4	547.0	541.7	536.3
57.5°	523.4	508.5	493.7	484.3	480.2	476.1	472.1	468.0
60°	474.2	459.6	445.0	435.5	430.9	426.4	421.9	417.4
62.5°	425.9	412.4	398.9	390.3	386.7	383.2	379.5	376.0
65°	356.6	344.5	332.4	324.6	321.3	317.9	314.6	311.2
67.5°	292.9	282.5	272.1	265.1	261.3	257.6	253.9	250.2
70°	249.6	240.3	231.1	225.1	222.2	219.4	216.6	213.8
72.5°	210.8	202.9	195.0	189.7	187.1	184.6	182.0	179.4
75°	155.3	148.9	142.4	138.3	136.7	134.9	133.2	131.6
77.5°	109.9	106.1	102.3	100.2	99.7	99.2	98.7	98.2
80°	84.4	83.5	82.6	82.1	81.8	81.5	81.3	81.0
82.5°	65.6	65.0	64.3	63.8	63.6	63.3	63.1	62.7
85°	38.1	37.5	37.0	36.7	36.7	36.7	36.7	36.7
87.5°	15.1	15.0	14.8	14.8	15.1	15.4	15.6	15.8
90°	6.9	7.3	7.7	7.9	8.0	8.2	8.2	8.4
92.5°	11.6	11.7	12.0	12.1	12.2	12.3	12.4	12.4
95°	21.6	21.9	22.0	22.1	22.1	22.1	22.1	22.1
97.5°	34.1	34.3	34.5	34.6	34.6	34.6	34.6	34.6
100°	43.1	43.2	43.3	43.4	43.4	43.4	43.4	43.4
102.5°	52.6	52.8	52.9	53.1	53.1	53.2	53.2	53.2
105°	67.0	67.2	67.3	67.6	67.7	68.0	68.1	68.3
107.5°	82.6	82.8	82.9	83.0	83.0	83.0	83.0	82.9
110°	93.0	92.8	92.7	92.8	92.9	93.2	93.3	93.5



TEST NUMBER: P332989-927

CATALOG NUMBER: SA4XXRDIP-C1195D365U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	104.2	104.1	104.1	104.1	104.2	104.2	104.2	104.3
115°	121.4	121.3	121.2	121.2	121.1	121.0	121.0	121.0
117.5°	137.9	137.7	137.5	137.4	137.2	137.0	137.0	136.8
120°	149.2	148.9	148.5	148.5	148.5	148.7	148.8	148.9
122.5°	160.6	160.3	160.1	159.9	159.7	159.5	159.2	159.0
125°	177.2	177.1	177.0	176.8	176.7	176.6	176.5	176.3
127.5°	193.2	193.1	192.9	192.8	192.7	192.7	192.5	192.4
130°	204.4	204.2	204.1	203.9	203.7	203.4	203.2	203.0
132.5°	214.9	214.8	214.7	214.5	214.4	214.4	214.3	214.1
135°	230.7	230.6	230.4	230.3	230.1	229.9	229.7	229.6
137.5°	246.0	245.8	245.7	245.6	245.6	245.7	245.7	245.7
140°	256.0	256.0	255.9	255.8	255.8	255.7	255.6	255.6
142.5°	265.5	265.5	265.5	265.5	265.5	265.5	265.5	265.5
145°	279.8	279.7	279.7	279.6	279.4	279.2	279.0	278.8
147.5°	292.8	292.7	292.6	292.6	292.6	292.5	292.4	292.4
150°	301.0	301.0	301.0	300.9	300.9	300.8	300.7	300.6
152.5°	308.6	308.8	309.0	308.9	308.7	308.6	308.4	308.2
155°	319.3	319.6	319.8	319.8	319.6	319.3	319.1	318.9
157.5°	328.8	329.0	329.2	329.2	328.9	328.8	328.5	328.3
160°	334.6	334.8	335.0	334.9	334.6	334.3	334.0	333.7
162.5°	339.8	340.2	340.5	340.5	340.2	339.9	339.6	339.3
165°	346.7	347.1	347.5	347.5	347.3	347.1	346.8	346.6
167.5°	352.6	352.9	353.3	353.3	352.9	352.5	352.1	351.7
170°	355.7	356.1	356.5	356.4	356.0	355.5	355.1	354.7
172.5°	358.1	358.5	358.9	358.9	358.5	358.0	357.6	357.1
175°	360.6	361.0	361.5	361.5	361.0	360.6	360.1	359.7
177.5°	361.9	362.3	362.7	362.7	362.3	361.9	361.5	361.1
180°	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9

(END OF REPORT)