

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: P333002-927

Luminaire Tested: **S124RDIP-S1195D810U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333002-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S1195D810U927-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6111.7 lumens
Efficiency: N/A
Efficacy: 100.7 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

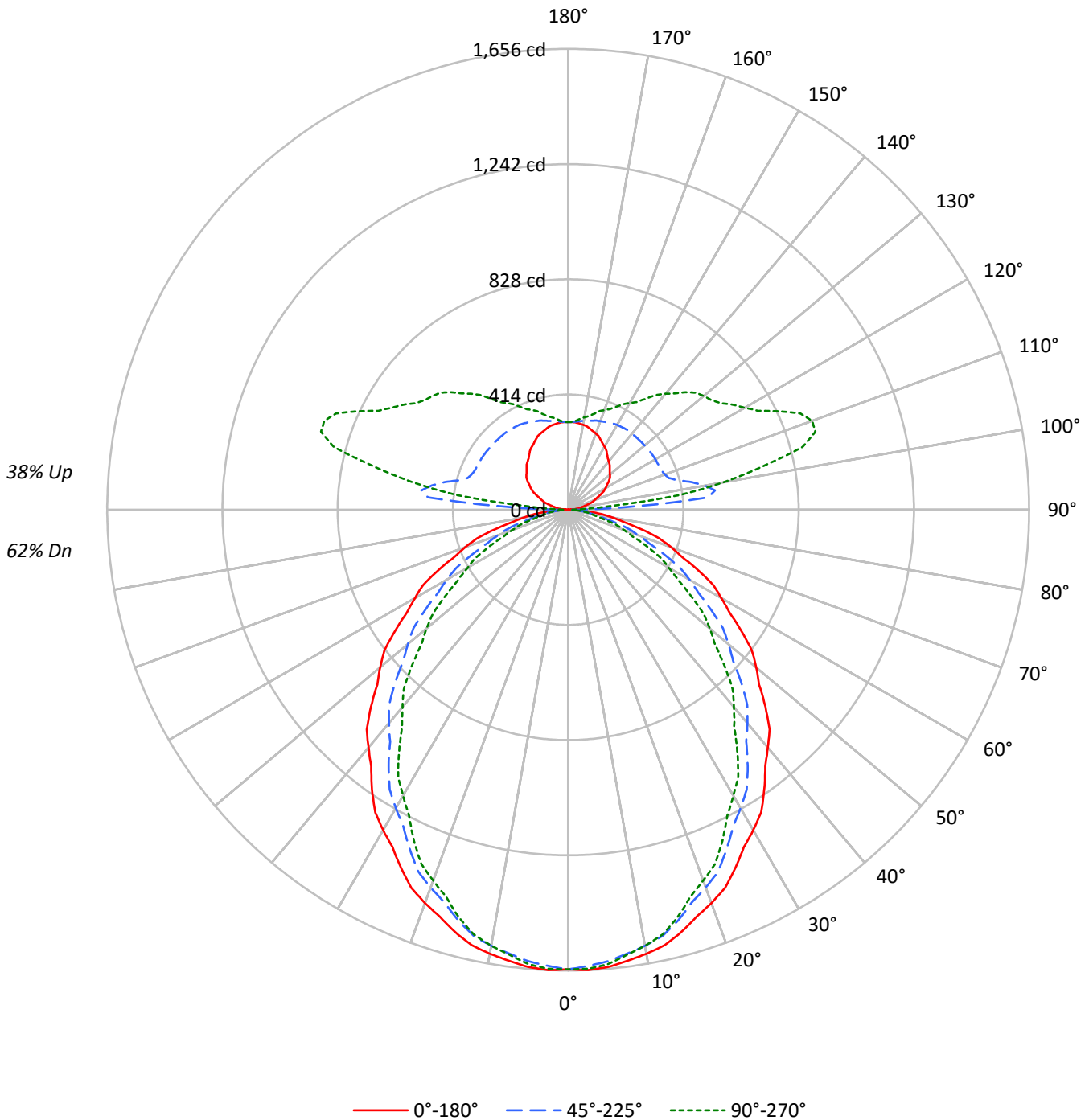
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	68	68	68	62
1	101	97	93	89	94	91	87	84	80	77	75	70	68	66	60	59	58	53
2	92	85	79	74	86	80	74	70	70	66	63	62	58	56	53	51	49	45
3	84	75	68	62	79	70	64	59	62	57	53	55	51	48	48	45	42	39
4	77	66	59	53	72	63	56	50	56	50	46	49	45	41	43	39	37	33
5	71	59	51	45	66	56	49	43	50	44	40	44	39	36	39	35	32	29
6	66	54	45	40	61	51	43	38	45	39	35	40	35	32	35	31	28	26
7	61	48	40	35	57	46	39	33	41	35	31	37	32	28	32	28	25	23
8	57	44	36	31	53	42	35	30	38	32	27	34	29	25	30	26	23	21
9	53	40	33	28	50	38	31	27	35	29	25	31	26	23	27	24	21	19
10	49	37	30	25	46	35	29	24	32	26	22	29	24	21	26	22	19	17

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	2.5
10°-20°	432.8	7.1
20°-30°	624.9	10.2
30°-40°	708.3	11.6
40°-50°	684.0	11.2
50°-60°	568.8	9.3
60°-70°	392.8	6.4
70°-80°	199.1	3.3
80°-90°	52.8	0.9
90°-100°	227.7	3.7
100°-110°	474.0	7.8
110°-120°	424.5	6.9
120°-130°	357.1	5.8
130°-140°	297.7	4.9
140°-150°	227.5	3.7
150°-160°	159.9	2.6
160°-170°	94.0	1.5
170°-180°	30.6	0.5
0°-30°	1212.9	19.8
0°-40°	1921.2	31.4
0°-60°	3174.0	51.9
0°-90°	3818.7	62.5
90°-120°	1126.2	18.4
90°-150°	2008.5	32.9
90°-180°	2293.0	37.5
0°-180°	6111.7	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	5	11	12	13	4
95°	20	64	505	250	151	23
105°	72	105	406	875	872	77
115°	128	160	362	696	837	127
125°	178	211	360	592	668	158
135°	211	251	357	526	597	163
145°	243	279	356	444	488	153
155°	277	299	346	392	408	128
165°	302	311	331	351	356	85
175°	315	315	318	322	321	30
180°	315	315	315	315	315	



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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	21.9	20.4	18.8	17.0	16.1	16.6	16.3	16.4	16.4	16.1
90°	0.6	1.8	3.7	4.4	5.0	5.0	8.6	8.6	9.9	11.2	10.5
92.5°	7.1	10.3	16.1	23.7	32.7	45.6	77.1	125.1	172.0	196.5	163.7
95°	20.4	22.3	28.5	36.5	51.4	77.4	131.3	232.9	381.0	504.9	519.1
97.5°	36.7	36.7	42.0	49.4	62.2	84.0	125.5	209.4	356.6	531.7	652.1
100°	47.1	47.1	51.4	58.9	70.6	90.5	127.0	197.0	323.4	498.0	656.6
102.5°	57.0	58.0	61.8	68.8	80.0	98.9	131.9	193.5	301.0	455.9	619.4
105°	72.5	74.3	77.4	84.8	96.0	114.0	143.7	195.1	281.9	406.3	551.9
107.5°	89.6	90.8	93.9	101.8	112.5	130.2	157.5	204.3	278.4	378.6	497.4
110°	101.0	102.2	105.3	112.7	123.9	140.6	167.9	211.2	279.3	369.2	470.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	111.9	113.1	116.7	123.7	134.8	151.5	177.8	218.6	282.3	364.7	454.8
115°	127.6	129.4	133.8	140.0	151.8	168.5	193.3	230.4	288.0	362.3	440.4
117.5°	143.9	145.7	149.6	156.4	167.4	184.7	208.3	242.4	294.1	361.7	434.0
120°	154.9	156.1	160.4	167.2	177.8	195.1	218.6	250.9	298.6	361.7	430.5
122.5°	164.8	166.0	170.3	176.7	188.1	205.0	228.5	258.8	303.0	361.2	426.5
125°	177.8	180.2	183.9	190.8	202.6	219.9	242.2	270.7	309.7	360.5	419.9
127.5°	189.3	191.3	195.7	203.5	215.8	233.3	254.8	281.0	315.1	359.2	411.1
130°	195.7	198.2	203.2	212.5	224.3	242.2	263.2	287.4	319.0	358.6	405.8
132.5°	202.2	204.1	210.6	219.4	232.2	249.1	270.2	293.8	322.5	358.1	400.8
135°	211.2	213.7	219.9	230.4	243.4	259.5	280.0	302.3	327.6	357.4	393.3
137.5°	220.3	222.6	229.4	239.5	252.9	268.3	287.4	308.2	330.7	357.3	386.9
140°	226.7	228.5	235.4	245.9	258.9	273.8	292.4	312.2	333.3	356.8	383.4
142.5°	233.6	235.5	241.9	251.8	264.4	278.8	296.8	315.1	335.3	356.8	380.5
145°	243.4	245.3	251.5	260.2	272.0	285.6	301.7	318.4	336.4	355.5	375.3
147.5°	254.4	255.1	260.5	269.4	279.2	291.5	306.7	321.2	337.0	353.3	370.8
150°	261.4	262.1	267.0	274.4	283.7	295.5	309.1	322.7	337.0	351.8	367.3
152.5°	267.8	268.0	272.9	279.9	288.2	299.0	311.1	323.7	336.0	349.4	363.4
155°	276.9	277.5	281.2	287.4	294.2	303.5	314.0	324.6	334.5	345.6	357.4
157.5°	285.7	285.7	289.1	294.0	299.9	307.2	316.2	324.6	332.9	341.8	351.3
160°	291.1	291.1	293.6	297.9	302.9	309.7	317.1	324.6	331.4	338.8	346.9
162.5°	296.1	295.6	297.5	301.4	305.9	311.2	318.1	324.6	329.9	335.9	342.9
165°	301.7	301.7	302.9	306.0	309.1	312.8	318.4	323.4	327.1	331.4	336.4
167.5°	307.2	306.7	307.2	309.6	311.3	314.2	318.3	321.9	324.1	326.9	330.4
170°	309.7	309.1	309.7	311.6	312.8	314.7	317.7	320.8	322.1	323.9	326.5
172.5°	312.2	311.6	311.7	313.1	313.8	315.1	317.3	319.9	320.1	321.0	323.0
175°	314.7	314.0	314.0	314.7	315.3	315.3	316.6	318.4	317.7	317.7	319.0
177.5°	315.8	315.3	314.8	315.3	315.3	315.3	315.8	316.8	315.8	315.8	316.2
180°	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3



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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°	15.9	15.8	15.8	15.8	16.1	16.5	16.6	16.8
90°	11.2	11.8	12.4	12.4	13.0	13.6	13.0	13.0
92.5°	121.7	91.6	72.9	60.4	53.2	49.8	47.7	47.7
95°	459.0	363.0	280.0	219.9	189.6	170.3	159.2	151.1
97.5°	678.1	642.5	581.9	517.2	472.8	435.5	416.8	404.0
100°	747.0	759.4	729.0	683.3	629.3	591.5	573.0	568.0
102.5°	743.5	805.0	813.8	794.7	761.7	734.3	714.7	710.7
105°	693.8	800.9	862.2	887.6	888.9	883.9	875.3	871.6
107.5°	623.1	737.1	823.5	878.7	909.3	923.4	929.6	931.2
110°	580.4	687.5	777.4	845.5	889.5	915.5	926.7	932.2



TEST NUMBER: P333002-927

CATALOG NUMBER: S124RDIP-S1195D810U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	549.2	644.0	728.8	796.9	846.8	878.4	894.0	903.0
115°	517.8	594.1	666.5	726.0	774.9	812.1	831.9	836.9
117.5°	502.5	565.5	622.5	673.0	714.7	745.9	766.0	769.8
120°	495.5	553.2	602.7	646.7	682.0	709.2	725.3	732.1
122.5°	489.6	545.2	590.3	628.8	658.7	682.0	695.6	702.4
125°	479.4	532.7	575.4	609.5	634.3	652.3	664.0	667.7
127.5°	467.1	517.9	560.5	592.9	617.8	633.8	643.7	647.5
130°	457.2	506.0	548.2	581.0	606.4	621.9	631.8	635.6
132.5°	446.7	492.7	533.9	566.6	591.5	609.0	618.5	622.2
135°	432.4	472.6	510.4	541.4	566.2	583.5	593.4	597.1
137.5°	419.4	453.4	485.3	513.3	536.4	553.5	561.7	566.2
140°	411.9	441.0	468.9	495.0	516.6	530.2	538.9	543.8
142.5°	405.0	430.6	454.6	477.1	496.3	508.9	516.6	520.1
145°	395.2	416.3	434.8	452.2	467.7	478.2	484.4	487.5
147.5°	387.1	403.9	418.7	432.4	443.8	452.8	457.5	458.6
150°	382.1	396.4	408.8	419.9	429.9	437.9	441.6	442.3
152.5°	376.8	389.0	400.4	409.6	418.0	424.5	426.7	427.4
155°	368.5	378.5	387.8	395.2	401.4	406.3	408.2	408.2
157.5°	359.7	368.0	375.9	381.8	386.5	390.2	391.3	391.3
160°	354.3	361.2	368.0	372.9	376.6	380.3	381.0	381.0
162.5°	348.9	354.7	360.0	364.5	367.2	370.9	371.5	371.1
165°	341.3	345.0	349.4	352.4	354.9	357.4	356.8	356.2
167.5°	334.0	336.8	340.3	342.1	343.4	345.0	344.9	344.4
170°	329.5	331.4	333.9	335.7	337.0	337.5	337.0	337.0
172.5°	325.6	326.9	328.4	329.8	330.5	331.1	330.5	329.5
175°	320.3	320.8	322.1	322.1	322.1	323.4	322.1	320.8
177.5°	316.8	317.3	317.3	317.7	317.3	317.7	316.8	315.8
180°	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3

(END OF REPORT)