

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: P332995-940

Luminaire Tested: **S124RDIP-S1195D590U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332995-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S1195D590U940-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6122.9 lumens
Efficiency: N/A
Efficacy: 111.1 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

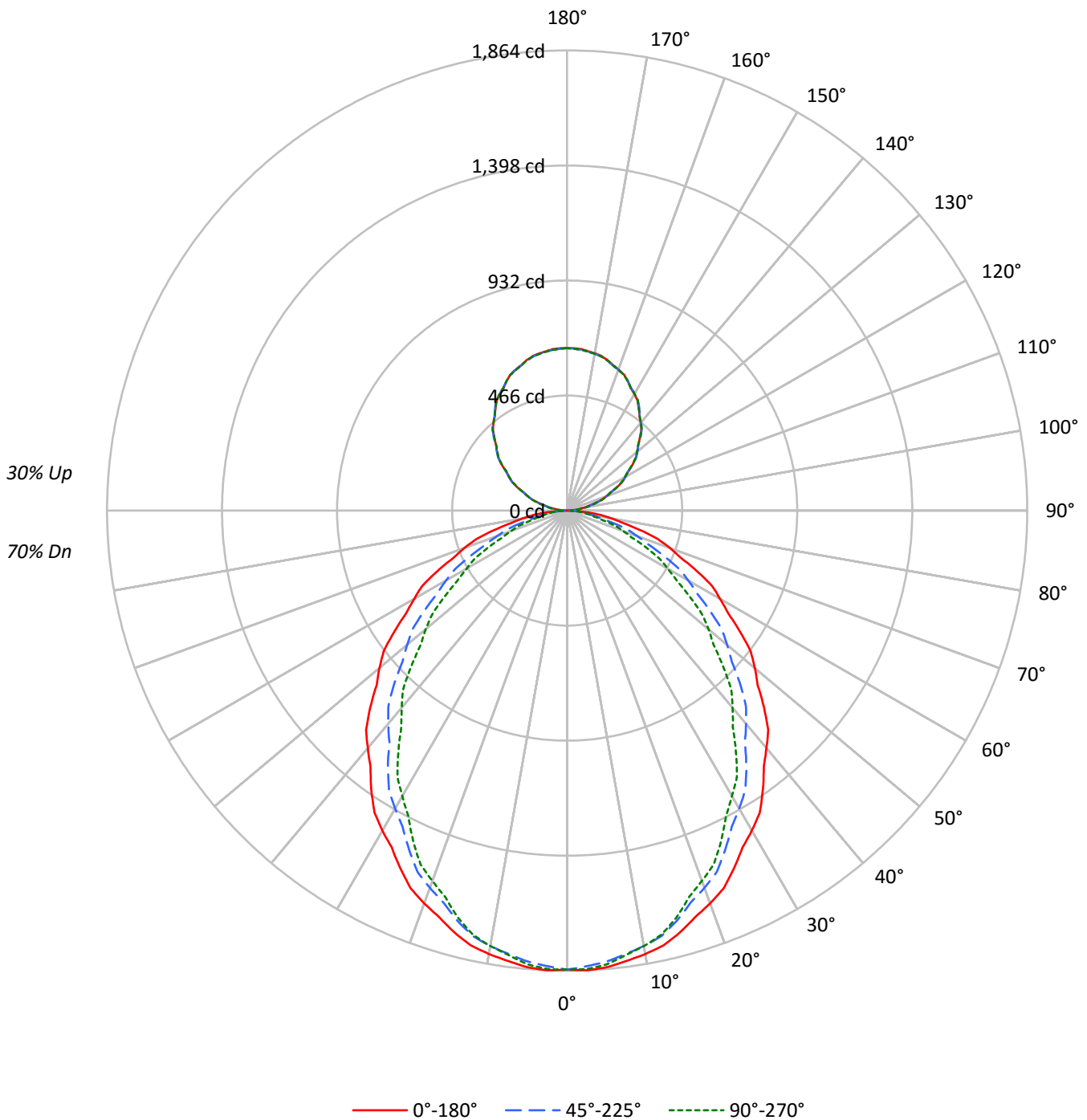
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	70
1	103	98	95	91	97	93	90	87	84	81	79	75	73	71	67	65	64	60
2	94	86	80	75	89	82	77	72	74	69	66	66	63	60	59	57	54	51
3	86	76	69	63	81	73	66	61	65	60	56	59	55	51	53	49	47	43
4	79	68	60	54	74	65	57	52	58	53	48	53	48	44	47	44	41	38
5	73	61	52	46	68	58	50	45	52	46	42	47	42	39	43	39	36	33
6	67	55	46	41	63	52	45	39	48	41	37	43	38	34	39	35	31	29
7	62	50	42	36	59	47	40	35	43	37	32	39	34	30	36	31	28	26
8	58	45	37	32	55	43	36	31	40	33	29	36	31	27	33	29	25	23
9	54	42	34	29	51	40	33	28	36	30	26	33	28	25	30	26	23	21
10	51	38	31	26	48	37	30	25	34	28	24	31	26	22	28	24	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15012	15012	15012
5°	15046	14862	14955
10°	14952	14684	14684
15°	14780	14375	14269
20°	14545	13970	13713
25°	14243	13495	13153
30°	13951	12995	12450
35°	13626	12476	11745
40°	13235	11884	10984
45°	12875	11298	10209
50°	12465	10623	9388
55°	12024	9920	8497
60°	11541	9150	7585
65°	11096	8187	6692
70°	10452	7124	5681
75°	9638	5908	4619
80°	8405	4500	4235
85°	7123	4085	3825



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.7	2.9
10°-20°	487.1	8.0
20°-30°	703.4	11.5
30°-40°	797.3	13.0
40°-50°	770.0	12.6
50°-60°	640.3	10.5
60°-70°	442.1	7.2
70°-80°	224.1	3.7
80°-90°	59.5	1.0
90°-100°	43.4	0.7
100°-110°	128.5	2.1
110°-120°	218.1	3.6
120°-130°	287.6	4.7
130°-140°	322.9	5.3
140°-150°	317.3	5.2
150°-160°	266.9	4.4
160°-170°	177.6	2.9
170°-180°	62.2	1.0
0°-30°	1365.2	22.3
0°-40°	2162.6	35.3
0°-60°	3572.8	58.4
0°-90°	4298.4	70.2
90°-120°	389.9	6.4
90°-150°	1317.8	21.5
90°-180°	1824.0	29.8
0°-180°	6122.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1860	1860	1860	1860	1860	
5°	1857	1850	1834	1847	1845	176
15°	1768	1754	1720	1717	1707	498
25°	1599	1572	1515	1491	1477	736
35°	1383	1336	1266	1219	1192	864
45°	1128	1073	990	922	894	869
55°	854	795	705	633	604	764
65°	581	518	429	370	350	573
75°	309	256	189	158	148	326
85°	77	50	44	41	41	87
90°	2	7	11	14	15	6
95°	30	35	39	40	40	34
105°	118	119	121	123	124	126
115°	222	222	221	220	220	219
125°	323	323	322	321	320	288
135°	416	419	420	419	417	322
145°	506	508	508	508	507	317
155°	580	580	579	581	579	267
165°	631	630	629	631	630	178
175°	657	654	654	657	654	62
180°	658	658	658	658	658	



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CATALOG NUMBER: S124RDIP-S1195D590U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6
2.5°	1864.1	1863.1	1862.2	1861.1	1860.1	1858.2	1855.5	1852.6	1849.9	1847.1	1849.9
5°	1856.7	1855.5	1854.2	1853.0	1851.7	1849.1	1845.4	1841.6	1837.8	1834.0	1837.1
7.5°	1840.0	1838.6	1837.3	1835.9	1834.6	1831.5	1826.6	1821.7	1816.7	1811.8	1813.8
10°	1824.0	1822.4	1820.9	1819.3	1817.7	1814.0	1808.4	1802.7	1797.0	1791.3	1792.5
12.5°	1803.5	1801.7	1799.8	1798.0	1796.2	1791.9	1785.2	1778.5	1771.7	1765.1	1765.9
15°	1768.4	1765.6	1762.8	1760.0	1757.1	1751.7	1743.8	1735.9	1728.0	1720.0	1719.4
17.5°	1726.1	1721.9	1717.8	1713.7	1709.6	1702.8	1693.3	1683.8	1674.3	1664.8	1663.0
20°	1693.0	1688.9	1684.8	1680.7	1676.6	1669.1	1658.4	1647.6	1636.8	1626.1	1623.5
22.5°	1656.5	1652.0	1647.3	1642.7	1638.1	1630.0	1618.5	1607.0	1595.4	1583.9	1580.1
25°	1599.0	1593.3	1587.6	1582.0	1576.3	1566.9	1554.0	1541.0	1528.0	1515.0	1509.7
27.5°	1538.6	1531.5	1524.4	1517.2	1510.0	1499.6	1485.7	1471.9	1457.9	1444.1	1437.4
30°	1496.6	1488.6	1480.7	1472.7	1464.9	1453.5	1438.6	1423.7	1408.9	1394.0	1386.1
32.5°	1452.1	1443.1	1434.2	1425.3	1416.4	1404.3	1388.8	1373.5	1358.1	1342.7	1333.6
35°	1382.6	1372.4	1362.4	1352.2	1342.1	1329.1	1313.3	1297.5	1281.7	1265.9	1255.1
37.5°	1308.3	1297.8	1287.4	1276.9	1266.5	1252.5	1235.0	1217.5	1200.0	1182.4	1170.4
40°	1255.9	1245.5	1235.0	1224.6	1214.1	1199.9	1181.9	1163.8	1145.8	1127.7	1114.5
42.5°	1205.8	1194.8	1183.8	1172.9	1162.0	1147.1	1128.3	1109.5	1090.7	1071.9	1058.4
45°	1127.7	1116.0	1104.3	1092.6	1080.9	1065.5	1046.6	1027.6	1008.6	989.6	974.1
47.5°	1047.1	1035.0	1023.0	1010.8	998.8	982.8	963.1	943.3	923.6	903.9	887.8
50°	992.5	980.1	967.8	955.5	943.1	926.8	906.5	886.3	866.0	845.8	830.0
52.5°	936.7	924.5	912.5	900.4	888.3	871.8	851.1	830.4	809.6	788.8	772.8
55°	854.3	841.7	829.0	816.4	803.7	787.1	766.5	746.0	725.4	704.8	688.4
57.5°	772.8	759.7	746.5	733.4	720.2	703.6	683.3	663.0	642.7	622.5	605.8
60°	714.8	702.1	689.5	676.8	664.1	647.7	627.5	607.3	586.9	566.7	550.3
62.5°	662.4	649.3	636.1	622.9	609.8	592.8	572.0	551.3	530.5	509.8	494.5
65°	580.9	567.3	553.8	540.1	526.6	509.6	489.4	469.1	448.9	428.6	415.0
67.5°	496.3	483.3	470.3	457.3	444.3	428.3	409.5	390.7	371.9	353.1	341.4
70°	442.8	429.5	416.3	403.0	389.7	374.0	356.0	338.0	319.9	301.8	291.4
72.5°	385.8	373.9	361.9	349.8	337.8	323.2	306.2	289.2	272.2	255.1	246.2
75°	309.0	297.3	285.5	273.8	262.2	248.9	234.0	219.1	204.3	189.4	182.1
77.5°	231.0	221.1	211.1	201.2	191.2	180.2	168.2	156.2	144.2	132.2	127.9
80°	180.8	171.7	162.5	153.3	144.1	134.8	125.3	115.8	106.3	96.8	95.9
82.5°	137.6	129.1	120.7	112.3	103.9	96.9	91.5	86.1	80.6	75.2	74.5
85°	76.9	70.5	64.2	57.9	51.5	48.0	47.0	46.0	45.1	44.1	43.5
87.5°	26.5	24.7	22.9	21.1	19.4	18.5	18.4	18.4	18.3	18.2	18.1
90°	1.5	2.8	4.0	5.3	6.5	7.6	8.5	9.4	10.3	11.1	11.9
92.5°	10.9	12.3	13.7	15.2	16.6	17.6	18.3	18.9	19.5	20.2	20.5
95°	30.5	31.6	32.5	33.5	34.6	35.5	36.3	37.1	37.9	38.6	39.0
97.5°	53.3	54.1	54.9	55.7	56.5	57.4	58.3	59.3	60.2	61.2	61.5
100°	71.2	71.7	72.1	72.6	73.0	73.7	74.7	75.8	76.8	77.8	78.0
102.5°	89.9	90.1	90.2	90.4	90.6	91.2	92.1	93.0	94.0	94.9	95.2
105°	118.5	118.6	118.7	118.9	119.0	119.2	119.7	120.1	120.6	121.0	121.4
107.5°	148.5	148.6	148.7	148.9	149.1	149.2	149.2	149.3	149.4	149.5	149.7
110°	168.9	169.1	169.3	169.5	169.8	169.8	169.7	169.6	169.5	169.3	169.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	190.0	190.0	190.1	190.1	190.2	190.1	189.9	189.7	189.5	189.3	189.2
115°	221.8	221.8	221.8	221.8	221.8	221.6	221.4	221.1	221.0	220.7	220.6
117.5°	251.6	251.7	251.8	251.9	252.0	252.0	251.8	251.6	251.5	251.4	250.9
120°	271.6	272.1	272.5	273.0	273.4	273.5	273.1	272.8	272.4	272.1	271.5
122.5°	292.3	292.5	292.7	292.8	293.0	293.1	292.9	292.7	292.6	292.5	292.0
125°	323.0	323.0	323.0	323.0	323.0	322.9	322.8	322.7	322.5	322.4	322.2
127.5°	350.7	351.1	351.4	351.8	352.0	352.1	352.0	351.8	351.6	351.4	351.2
130°	370.2	370.6	371.0	371.3	371.6	371.8	371.8	371.8	371.8	371.8	371.6
132.5°	390.2	390.5	390.7	390.9	391.2	391.3	391.2	391.1	391.0	390.9	390.7
135°	416.5	417.2	417.9	418.6	419.3	419.5	419.5	419.5	419.5	419.5	419.4
137.5°	445.2	445.5	445.9	446.1	446.5	446.7	446.9	447.1	447.3	447.5	447.2
140°	464.3	464.6	464.8	465.0	465.2	465.4	465.4	465.4	465.4	465.4	465.2
142.5°	481.8	482.1	482.3	482.5	482.8	482.8	482.7	482.6	482.5	482.4	482.4
145°	506.0	506.5	506.9	507.4	507.8	508.1	508.3	508.4	508.5	508.5	508.5
147.5°	530.0	530.6	531.1	531.6	532.3	532.4	532.4	532.3	532.2	532.1	532.0
150°	544.7	545.2	545.6	546.1	546.5	546.7	546.7	546.7	546.7	546.7	546.7
152.5°	558.6	558.8	559.1	559.4	559.6	559.8	559.9	560.0	560.1	560.2	560.4
155°	579.8	579.8	579.8	579.8	579.8	579.7	579.6	579.5	579.4	579.3	579.7
157.5°	597.7	597.4	597.3	597.1	596.9	596.7	596.7	596.7	596.7	596.6	597.0
160°	608.2	608.1	608.1	608.0	607.8	607.7	607.6	607.5	607.3	607.3	607.6
162.5°	618.0	617.8	617.4	617.2	616.9	616.6	616.5	616.4	616.4	616.2	616.8
165°	631.2	630.8	630.4	630.2	629.8	629.5	629.3	629.1	628.8	628.7	629.3
167.5°	641.2	640.8	640.2	639.8	639.4	639.1	639.1	639.2	639.2	639.2	639.9
170°	646.9	646.4	645.8	645.2	644.6	644.4	644.5	644.6	644.8	644.9	645.6
172.5°	650.9	650.5	650.1	649.6	649.1	648.9	648.9	648.9	648.9	649.0	649.7
175°	656.6	656.0	655.5	654.9	654.3	654.0	653.9	653.8	653.6	653.5	654.3
177.5°	658.4	658.0	657.5	657.1	656.6	656.4	656.4	656.4	656.4	656.4	657.0
180°	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6
2.5°	1852.6	1855.5	1858.2	1859.5	1859.2	1858.9	1858.7	1858.5
5°	1840.3	1843.4	1846.6	1847.9	1847.3	1846.6	1846.0	1845.4
7.5°	1815.8	1817.8	1819.9	1820.3	1819.4	1818.4	1817.3	1816.3
10°	1793.8	1795.0	1796.4	1796.4	1795.0	1793.8	1792.5	1791.3
12.5°	1766.6	1767.4	1768.1	1767.5	1765.9	1764.1	1762.3	1760.5
15°	1718.8	1718.1	1717.5	1716.1	1713.9	1711.6	1709.5	1707.3
17.5°	1661.3	1659.5	1657.7	1655.2	1651.8	1648.4	1645.1	1641.7
20°	1621.0	1618.5	1616.0	1612.7	1608.6	1604.5	1600.3	1596.2
22.5°	1576.4	1572.5	1568.8	1565.2	1561.8	1558.4	1555.1	1551.8
25°	1504.2	1498.9	1493.5	1489.2	1486.0	1482.9	1479.7	1476.6
27.5°	1430.8	1424.2	1417.6	1411.9	1407.4	1402.8	1398.3	1393.7
30°	1378.1	1370.3	1362.4	1355.8	1350.8	1345.8	1340.7	1335.6
32.5°	1324.4	1315.2	1306.0	1299.0	1294.2	1289.4	1284.6	1279.8
35°	1244.3	1233.6	1222.8	1214.6	1208.9	1203.2	1197.5	1191.8
37.5°	1158.3	1146.3	1134.3	1125.4	1119.7	1114.0	1108.4	1102.7
40°	1101.2	1087.9	1074.6	1065.1	1059.4	1053.6	1048.0	1042.3
42.5°	1044.8	1031.3	1017.7	1008.0	1002.0	996.1	990.2	984.2
45°	958.6	943.1	927.6	916.9	911.3	905.6	899.9	894.2
47.5°	871.7	855.7	839.6	828.4	822.2	815.9	809.6	803.3
50°	814.1	798.3	782.5	771.6	765.6	759.6	753.6	747.5
52.5°	756.7	740.7	724.5	713.4	707.1	700.9	694.6	688.3
55°	671.9	655.5	639.0	627.8	621.8	615.7	609.8	603.7
57.5°	589.2	572.4	555.7	545.1	540.6	535.9	531.4	526.8
60°	533.8	517.4	500.9	490.2	485.1	480.0	474.9	469.8
62.5°	479.4	464.2	449.0	439.3	435.3	431.3	427.2	423.2
65°	401.4	387.8	374.2	365.4	361.7	357.8	354.1	350.3
67.5°	329.8	318.0	306.3	298.4	294.2	290.0	285.8	281.6
70°	281.0	270.5	260.1	253.3	250.1	247.0	243.8	240.7
72.5°	237.3	228.4	219.5	213.6	210.6	207.8	204.8	201.9
75°	174.9	167.6	160.2	155.7	153.8	151.9	150.0	148.1
77.5°	123.7	119.4	115.2	112.8	112.2	111.6	111.1	110.5
80°	95.0	94.0	93.0	92.4	92.1	91.8	91.5	91.1
82.5°	73.8	73.1	72.4	71.9	71.6	71.2	71.0	70.6
85°	42.9	42.3	41.6	41.3	41.3	41.3	41.3	41.3
87.5°	17.9	17.8	17.7	17.8	18.1	18.4	18.7	19.0
90°	12.6	13.2	13.9	14.4	14.6	14.8	15.1	15.2
92.5°	21.0	21.4	21.8	22.0	22.2	22.3	22.5	22.6
95°	39.3	39.7	40.0	40.2	40.2	40.2	40.2	40.2
97.5°	62.0	62.3	62.8	63.0	63.0	63.0	63.0	63.0
100°	78.3	78.5	78.7	78.8	78.8	78.8	78.8	78.8
102.5°	95.5	95.9	96.1	96.4	96.5	96.6	96.7	96.8
105°	121.7	122.1	122.4	122.7	123.1	123.4	123.8	124.1
107.5°	150.1	150.3	150.7	150.9	150.8	150.8	150.8	150.8
110°	168.9	168.7	168.4	168.5	168.9	169.2	169.5	169.9



TEST NUMBER: P332995-940

CATALOG NUMBER: S124RDIP-S1195D590U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	189.2	189.1	189.1	189.1	189.2	189.2	189.3	189.4
115°	220.5	220.4	220.3	220.2	220.1	219.9	219.8	219.7
117.5°	250.6	250.2	249.8	249.5	249.2	249.1	248.8	248.6
120°	271.0	270.4	269.8	269.7	269.9	270.1	270.4	270.5
122.5°	291.7	291.3	290.9	290.5	290.1	289.7	289.3	288.9
125°	322.0	321.7	321.6	321.3	321.1	320.8	320.7	320.4
127.5°	351.0	350.8	350.5	350.4	350.2	350.0	349.8	349.6
130°	371.3	371.1	370.9	370.5	370.1	369.6	369.2	368.7
132.5°	390.5	390.2	390.0	389.8	389.6	389.4	389.2	389.1
135°	419.1	418.9	418.7	418.4	418.0	417.7	417.4	417.1
137.5°	446.8	446.6	446.3	446.1	446.2	446.3	446.4	446.5
140°	465.1	465.0	464.9	464.8	464.7	464.6	464.5	464.3
142.5°	482.4	482.4	482.3	482.3	482.3	482.3	482.2	482.2
145°	508.4	508.3	508.1	507.9	507.6	507.2	506.8	506.6
147.5°	531.9	531.8	531.7	531.6	531.5	531.4	531.3	531.2
150°	546.7	546.7	546.7	546.7	546.5	546.4	546.4	546.3
152.5°	560.7	561.0	561.2	561.2	561.0	560.6	560.4	560.1
155°	580.1	580.6	581.1	581.1	580.6	580.1	579.7	579.3
157.5°	597.4	597.7	598.1	598.0	597.6	597.3	596.8	596.5
160°	608.0	608.2	608.6	608.5	608.0	607.3	606.8	606.3
162.5°	617.4	618.0	618.7	618.7	618.1	617.5	617.0	616.4
165°	630.0	630.6	631.3	631.4	631.0	630.5	630.1	629.6
167.5°	640.5	641.2	641.9	641.9	641.2	640.5	639.8	639.1
170°	646.2	646.9	647.6	647.6	646.8	646.0	645.2	644.4
172.5°	650.5	651.3	652.0	652.0	651.2	650.4	649.6	648.9
175°	655.1	655.9	656.7	656.7	655.9	655.1	654.3	653.5
177.5°	657.6	658.3	658.9	658.9	658.2	657.5	656.7	655.9
180°	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6

(END OF REPORT)