

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: P242635

Luminaire Tested: **S124DR-S795D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242635
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-21)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DR-S795D830-X4F0-XX-UDD-A-W
Description: DEFINE 4 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3139.3 lumens
Efficiency: N/A
Efficacy: 118.9 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.22 / 1.41
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

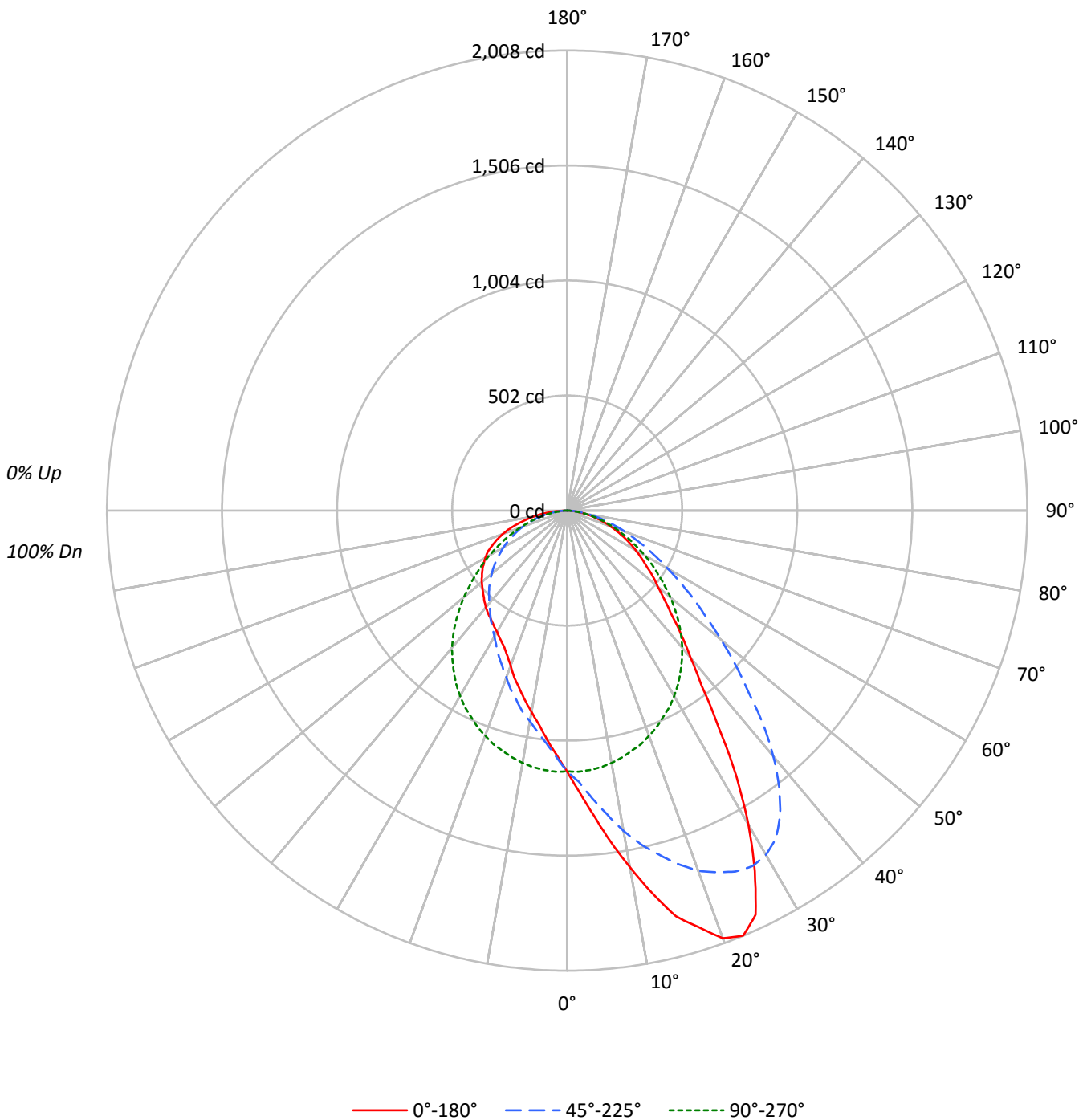
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	105	101	97	107	103	99	96	98	95	93		95	92	90		91	89	87	85
2	100	92	86	80	98	90	84	79	87	82	78		84	79	76		81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66		74	69	65		72	67	64	62
4	84	73	64	58	82	72	64	58	69	62	57		67	61	56		65	60	55	53
5	78	65	57	50	76	64	56	50	62	55	50		60	54	49		58	53	49	46
6	72	59	51	44	70	58	50	44	56	49	44		55	48	43		53	47	43	41
7	67	54	45	39	65	53	45	39	52	44	39		50	44	39		49	43	38	36
8	62	49	41	35	61	49	41	35	47	40	35		46	40	35		45	39	35	33
9	58	45	37	32	57	45	37	32	44	37	32		43	36	32		42	36	31	30
10	55	42	34	29	54	41	34	29	40	34	29		39	33	29		39	33	29	27

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	10113	10113	10113
5°	11908	10138	8949
10°	14258	10094	8057
15°	16871	9992	7399
20°	18785	9888	6812
25°	19090	9734	6406
30°	16243	9588	6279
35°	12489	9348	6280
40°	9734	9067	6398
45°	8116	8644	6505
50°	7143	8127	6726
55°	6545	7508	6997
60°	6133	6955	7323
65°	5710	6333	7593
70°	5219	5720	7766
75°	4660	5035	7672
80°	3906	4126	7433
85°	2886	2978	7109



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.7	3.5
10°-20°	341.8	10.9
20°-30°	542.9	17.3
30°-40°	603.2	19.2
40°-50°	548.6	17.5
50°-60°	448.3	14.3
60°-70°	320.0	10.2
70°-80°	176.1	5.6
80°-90°	47.6	1.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	995.4	31.7
0°-40°	1598.6	50.9
0°-60°	2595.6	82.7
0°-90°	3139.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3139.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1138	1138	1138	1138	1138	
5°	1335	1261	1136	1021	1003	135
15°	1833	1556	1086	856	804	518
25°	1946	1738	992	704	653	863
35°	1151	1621	862	581	579	729
45°	646	1119	688	482	518	507
55°	422	674	484	376	452	381
65°	272	375	301	262	361	269
75°	136	175	147	146	223	144
85°	28	36	29	42	70	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7
2.5°	1229.1	1228.6	1223.9	1223.0	1219.7	1215.4	1214.5	1206.9	1191.9	1184.8	1182.9
5°	1334.6	1344.1	1331.8	1329.5	1328.1	1312.5	1304.5	1295.1	1273.4	1260.7	1250.8
7.5°	1458.1	1458.6	1453.4	1448.2	1439.3	1426.1	1408.2	1387.4	1362.5	1337.0	1319.1
10°	1579.7	1583.5	1577.4	1576.4	1552.4	1537.3	1507.1	1481.7	1452.5	1419.9	1390.3
12.5°	1707.9	1700.4	1698.0	1673.0	1673.5	1642.9	1606.6	1580.2	1531.2	1492.5	1450.6
15°	1833.3	1822.9	1816.3	1788.5	1774.8	1736.6	1699.4	1670.7	1611.8	1555.7	1513.3
17.5°	1905.8	1918.6	1901.6	1890.3	1853.0	1828.1	1790.8	1731.9	1688.1	1618.4	1569.8
20°	1985.9	1986.9	1978.4	1966.6	1938.8	1904.9	1863.4	1797.4	1742.3	1673.0	1599.5
22.5°	2007.6	2007.6	2005.3	1994.4	1975.1	1949.2	1907.2	1854.9	1785.2	1708.4	1634.8
25°	1946.4	1944.5	1948.7	1961.0	1953.0	1944.5	1920.4	1879.4	1817.2	1737.6	1658.4
27.5°	1772.9	1785.2	1810.6	1840.8	1862.5	1881.8	1880.4	1862.9	1818.6	1749.8	1665.5
30°	1582.5	1598.6	1616.5	1646.6	1705.1	1738.5	1775.3	1803.1	1787.5	1735.2	1657.9
32.5°	1373.3	1374.2	1403.0	1438.3	1490.6	1562.7	1626.4	1690.0	1717.3	1696.1	1634.8
35°	1150.9	1157.4	1186.2	1220.1	1285.6	1364.3	1452.0	1530.2	1594.8	1620.7	1587.7
37.5°	964.2	985.0	1006.6	1045.3	1105.1	1176.3	1270.6	1368.1	1462.8	1520.3	1526.5
40°	838.9	850.6	865.3	893.1	942.1	1011.8	1090.1	1206.0	1308.3	1400.6	1430.8
42.5°	739.9	745.6	753.1	777.6	812.0	881.3	951.0	1049.5	1152.3	1267.3	1322.9
45°	645.6	652.7	667.8	682.4	710.7	758.8	825.2	909.1	1012.3	1118.8	1212.1
47.5°	575.0	579.7	589.1	605.1	630.6	663.1	719.6	790.8	891.7	994.9	1094.8
50°	516.5	520.3	527.4	541.5	559.9	588.2	632.4	698.0	772.9	877.0	974.6
52.5°	470.3	471.3	476.0	484.5	498.1	520.8	555.2	606.5	674.9	764.9	862.0
55°	422.3	424.1	428.9	435.9	448.7	463.7	491.5	532.1	592.9	673.5	757.8
57.5°	382.7	384.6	388.3	391.2	402.5	415.2	437.8	467.0	514.6	586.3	663.1
60°	345.0	344.0	348.7	351.1	358.2	368.5	385.0	412.8	452.9	508.0	577.3
62.5°	308.2	306.8	310.6	313.9	317.2	325.7	338.4	358.6	389.3	437.8	495.3
65°	271.5	269.6	271.9	275.7	279.5	284.2	294.1	313.4	339.3	375.1	420.8
67.5°	233.8	236.1	236.1	238.5	240.8	247.4	254.5	269.6	287.9	317.2	357.7
70°	200.8	201.2	203.1	203.1	204.5	210.2	215.8	223.9	241.8	268.2	299.7
72.5°	167.8	170.1	168.7	170.6	171.5	174.8	178.6	186.2	200.8	218.7	244.1
75°	135.7	137.1	137.1	137.6	139.0	140.4	143.7	149.4	160.2	174.8	193.2
77.5°	104.6	104.6	105.6	107.5	107.5	109.8	112.6	116.9	123.0	133.8	145.6
80°	76.3	77.3	76.8	77.8	77.8	79.6	80.6	86.2	88.6	95.2	104.2
82.5°	50.9	51.8	51.8	53.3	54.2	54.2	55.6	57.0	59.4	65.0	67.4
85°	28.3	29.2	28.3	29.2	30.6	31.1	32.5	33.0	34.9	36.3	39.6
87.5°	10.4	11.8	11.8	12.3	13.2	13.7	14.1	13.7	15.6	16.0	17.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7
2.5°	1183.4	1176.8	1172.1	1168.3	1157.9	1151.8	1147.1	1140.5	1132.9	1124.9	1115.0
5°	1240.9	1224.8	1213.1	1195.2	1178.2	1164.0	1149.4	1136.2	1120.2	1102.8	1090.1
7.5°	1299.8	1277.6	1247.9	1224.8	1197.0	1173.0	1151.8	1129.6	1106.1	1083.5	1062.3
10°	1355.4	1324.8	1290.8	1250.8	1213.1	1179.6	1148.5	1118.3	1089.1	1059.9	1034.9
12.5°	1415.2	1375.2	1321.0	1272.4	1229.1	1181.5	1142.4	1103.7	1067.0	1035.9	1005.7
15°	1467.5	1412.4	1354.4	1291.8	1236.2	1183.8	1132.5	1085.8	1046.2	1005.7	977.4
17.5°	1500.5	1432.2	1370.0	1304.5	1240.4	1174.9	1121.6	1069.3	1020.3	980.7	945.4
20°	1533.1	1465.2	1382.7	1317.2	1237.1	1169.2	1105.1	1045.3	993.4	950.6	913.8
22.5°	1561.3	1480.3	1397.8	1306.4	1226.7	1153.7	1082.0	1021.7	968.5	922.8	887.9
25°	1567.9	1477.9	1388.4	1302.6	1212.1	1126.8	1063.2	992.5	936.0	888.4	850.6
27.5°	1570.3	1475.1	1375.6	1282.3	1189.0	1111.3	1028.3	966.6	908.1	857.7	821.9
30°	1565.1	1464.7	1355.9	1252.6	1158.9	1072.6	1002.9	934.1	874.2	824.3	786.6
32.5°	1548.6	1443.0	1330.4	1219.7	1121.6	1037.7	965.2	900.6	842.6	793.6	753.6
35°	1513.7	1410.5	1291.3	1177.7	1078.3	993.0	927.9	861.5	803.1	756.4	718.2
37.5°	1467.1	1370.9	1249.8	1131.5	1035.9	949.1	883.6	822.4	769.6	721.5	681.9
40°	1402.0	1320.0	1198.5	1083.9	978.4	896.8	836.5	781.4	729.1	684.3	647.1
42.5°	1327.1	1258.3	1148.5	1025.5	924.6	842.6	784.2	736.1	687.6	647.1	609.8
45°	1235.2	1188.1	1082.5	970.4	864.3	787.0	730.9	687.6	646.1	605.6	574.5
47.5°	1132.9	1106.6	1014.7	907.2	805.4	728.1	679.6	638.1	600.4	565.1	537.3
50°	1029.7	1018.4	941.6	838.9	742.7	671.1	622.1	587.7	556.6	526.4	500.5
52.5°	927.9	930.3	862.9	771.0	683.8	615.5	566.9	535.4	509.4	486.4	463.7
55°	823.8	837.0	782.8	698.9	619.3	557.0	513.2	484.5	465.6	445.4	427.9
57.5°	728.1	750.3	703.1	626.3	558.9	499.6	460.9	438.8	418.0	404.8	391.2
60°	634.8	655.5	620.7	558.5	495.8	446.8	410.5	391.2	373.7	365.2	356.3
62.5°	551.9	569.8	546.2	489.7	437.3	390.7	361.5	343.1	332.7	323.3	318.1
65°	473.6	489.2	467.0	425.1	378.4	340.7	315.8	301.1	289.8	286.1	279.5
67.5°	396.3	410.5	398.7	361.9	322.4	292.7	272.9	257.3	250.7	246.9	242.7
70°	328.9	343.1	330.4	299.3	270.5	246.5	228.1	220.1	213.0	211.6	205.0
72.5°	271.9	280.4	267.7	245.1	221.5	202.2	189.0	180.5	177.7	174.8	172.0
75°	212.5	221.0	212.5	193.7	176.3	162.1	149.9	146.6	142.3	140.9	138.6
77.5°	159.3	167.3	160.7	148.0	134.3	122.5	115.5	110.7	110.3	107.5	108.4
80°	115.0	119.7	113.6	105.6	95.2	87.7	82.9	80.6	77.8	76.8	78.7
82.5°	74.5	75.9	73.5	68.8	61.7	57.5	54.7	51.8	51.8	52.3	51.8
85°	42.9	42.4	41.9	37.2	34.9	31.6	29.7	29.2	28.7	29.7	30.6
87.5°	17.9	18.4	17.9	16.0	14.6	13.2	12.7	12.3	12.7	13.2	13.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7	1137.7
2.5°	1110.3	1106.1	1100.0	1091.5	1084.4	1076.9	1075.0	1072.1	1077.8	1073.1	1071.7
5°	1079.2	1069.3	1056.6	1042.0	1033.5	1021.3	1018.9	1014.2	1009.5	1009.0	1004.3
7.5°	1046.7	1033.0	1017.0	1001.9	988.7	975.5	967.1	966.1	958.6	954.8	950.1
10°	1015.6	997.7	978.4	964.2	948.2	934.1	924.2	918.5	913.8	908.6	903.9
12.5°	978.8	959.5	944.4	928.9	909.1	899.2	881.3	870.4	870.4	871.9	857.7
15°	952.0	933.1	908.6	886.9	876.6	855.8	846.9	835.6	828.5	821.4	815.8
17.5°	919.0	895.9	877.0	852.5	833.2	817.7	805.4	799.3	788.0	777.6	770.5
20°	888.4	863.4	843.1	816.7	795.0	774.8	764.9	755.5	747.4	739.0	730.9
22.5°	857.2	830.9	804.9	779.5	759.7	738.0	728.6	714.9	707.4	703.6	695.6
25°	824.3	796.0	767.7	743.2	722.5	703.6	690.9	681.0	672.5	668.7	663.6
27.5°	788.4	760.6	733.8	705.5	681.5	667.8	657.4	649.4	644.2	638.6	636.2
30°	754.5	725.3	696.1	670.2	648.5	634.8	625.4	620.2	616.4	614.1	611.7
32.5°	720.1	691.4	660.3	637.2	618.3	606.5	599.9	594.7	593.3	592.9	592.4
35°	682.9	653.7	625.4	604.2	585.8	581.1	575.0	572.1	571.2	574.5	575.9
37.5°	647.1	619.7	593.3	572.1	559.9	552.3	550.0	549.5	552.8	555.6	558.9
40°	612.7	586.3	561.8	543.9	532.5	528.3	527.4	529.7	533.5	536.8	540.6
42.5°	579.2	553.3	531.6	515.1	508.0	504.3	505.2	507.6	513.2	517.5	523.6
45°	544.3	522.6	501.0	487.3	480.7	481.6	481.6	485.9	491.1	497.2	503.3
47.5°	511.8	489.7	471.3	459.5	456.2	454.8	457.1	462.8	469.9	476.9	485.4
50°	478.8	458.1	442.5	432.2	428.4	429.8	433.6	438.8	447.7	457.1	466.1
52.5°	445.4	427.0	412.8	403.4	401.1	403.9	407.7	416.6	424.1	434.5	445.8
55°	410.5	394.5	383.1	376.1	375.1	376.5	380.8	389.7	401.1	413.8	424.1
57.5°	376.1	362.4	351.6	346.4	346.9	347.8	354.4	365.2	376.5	390.2	403.4
60°	341.2	328.9	320.5	316.7	317.2	320.0	328.5	338.4	353.5	366.7	380.8
62.5°	308.2	297.8	289.8	286.5	285.6	292.7	300.7	311.0	326.1	341.2	356.8
65°	272.4	263.9	257.3	255.4	256.8	261.6	271.9	285.6	298.3	313.9	329.9
67.5°	237.5	230.5	225.7	226.7	228.1	234.7	243.6	255.4	269.6	285.6	302.1
70°	204.5	197.9	194.2	194.6	197.5	205.9	213.5	225.3	240.8	257.3	270.5
72.5°	170.6	166.8	163.5	165.9	168.7	173.9	183.8	195.6	208.8	223.9	238.0
75°	136.2	136.2	134.3	135.7	140.0	145.6	152.7	164.9	178.6	190.9	202.2
77.5°	107.0	105.6	106.5	107.9	110.7	117.8	125.8	134.8	145.6	158.3	167.8
80°	77.3	77.8	80.1	82.9	83.9	89.1	97.6	105.6	113.6	123.9	132.9
82.5°	53.3	53.7	54.7	58.4	59.4	65.0	69.7	77.8	84.8	91.0	98.0
85°	31.6	31.6	33.9	35.3	37.7	41.5	44.8	49.5	56.1	60.8	67.9
87.5°	15.1	15.1	17.0	17.9	19.3	21.7	22.6	27.8	29.7	32.0	36.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242635

CATALOG NUMBER: S124DR-S795D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1137.7	1137.7	1137.7	1137.7
2.5°	1070.7	1069.8	1066.5	1066.0
5°	1001.5	999.1	997.7	1002.9
7.5°	949.1	947.3	943.0	941.6
10°	899.2	897.3	893.5	892.6
12.5°	851.1	846.9	846.9	848.3
15°	809.6	807.8	802.6	804.0
17.5°	767.2	765.3	758.3	765.3
20°	727.6	723.9	720.6	720.1
22.5°	689.9	686.6	687.1	683.3
25°	659.8	656.5	655.5	653.2
27.5°	635.3	633.4	631.5	632.4
30°	613.1	612.7	611.7	611.7
32.5°	594.7	594.7	595.7	595.7
35°	577.8	579.2	580.1	578.7
37.5°	562.7	563.6	565.1	566.5
40°	544.8	548.1	549.0	551.4
42.5°	527.8	531.6	534.4	534.4
45°	510.4	514.2	517.5	517.5
47.5°	492.5	497.7	501.0	501.4
50°	474.1	480.7	484.0	486.4
52.5°	456.2	462.8	467.5	468.4
55°	435.0	444.4	449.6	451.5
57.5°	416.1	424.6	430.3	431.7
60°	393.5	402.9	410.5	411.9
62.5°	370.4	380.3	386.9	391.2
65°	343.1	353.0	359.6	361.0
67.5°	314.3	324.7	328.9	331.8
70°	283.7	291.7	296.4	298.8
72.5°	248.8	257.3	263.0	263.0
75°	213.0	220.6	223.4	223.4
77.5°	175.8	180.0	183.8	184.7
80°	140.0	142.3	145.2	145.2
82.5°	103.2	105.1	107.9	107.5
85°	66.9	71.2	70.7	69.7
87.5°	37.7	38.2	39.6	40.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)