

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: P242733

Luminaire Tested: **S124RDR-S795D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242733
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDR-S795D927-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2485.2 lumens
Efficiency: N/A
Efficacy: 94.5 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

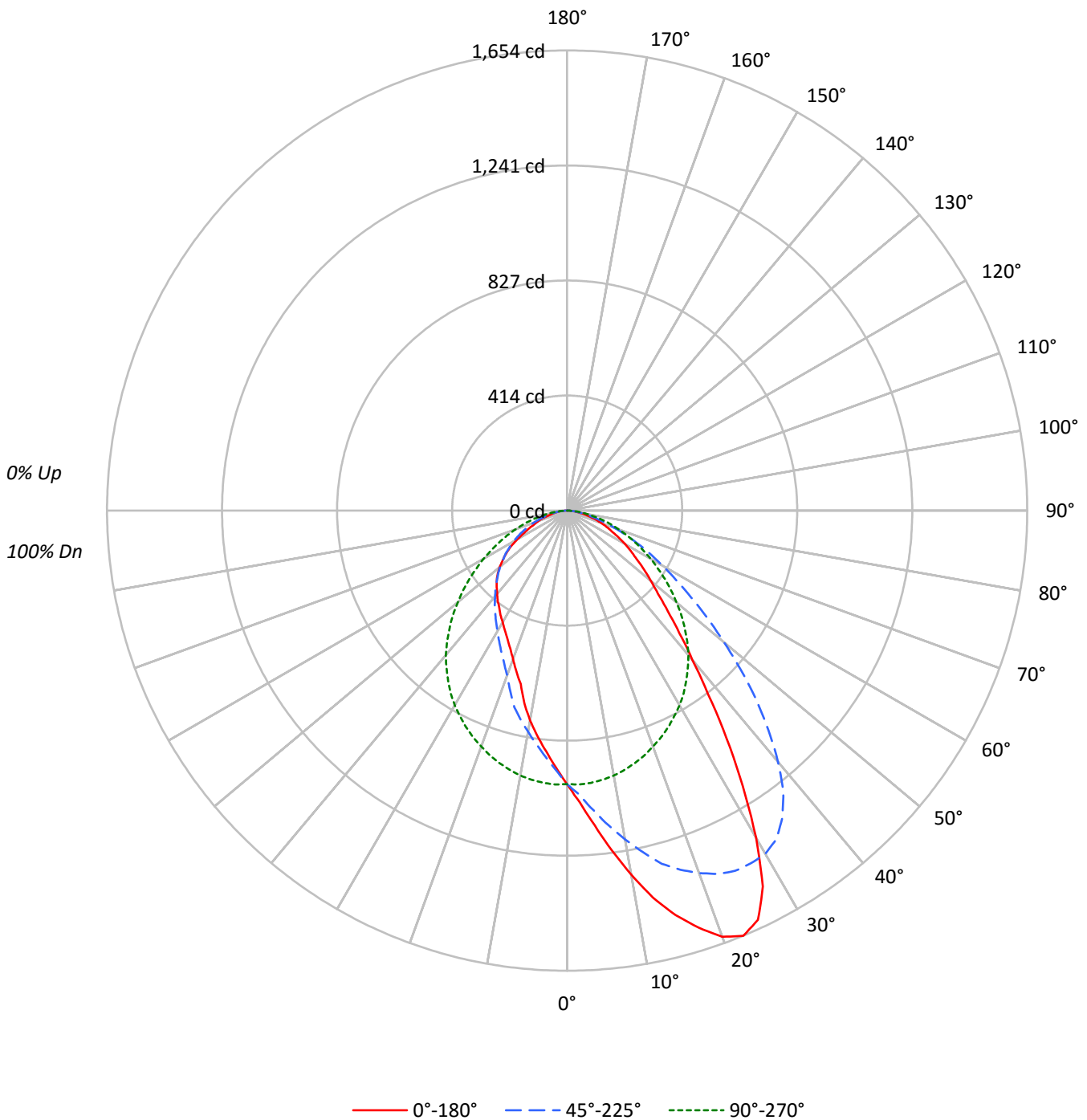
Input Watts (W): 26.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	8739	8739	8739
5°	10136	8765	7747
10°	11991	8727	6914
15°	13852	8646	5941
20°	15422	8535	5373
25°	15920	8426	4988
30°	13936	8293	4756
35°	10848	8097	4616
40°	8135	7873	4541
45°	6424	7514	4502
50°	5422	7098	4371
55°	4727	6642	4138
60°	4252	6169	3662
65°	3748	5656	3149
70°	3376	5128	2841
75°	2830	4544	2421
80°	2391	3875	2273
85°	2019	3029	2019



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.2	3.8
10°-20°	287.5	11.6
20°-30°	450.3	18.1
30°-40°	500.1	20.1
40°-50°	443.1	17.8
50°-60°	345.3	13.9
60°-70°	225.9	9.1
70°-80°	110.8	4.5
80°-90°	27.0	1.1
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°	833.0	33.5
0°-40°	1333.0	53.6
0°-60°	2121.5	85.4
0°-90°	2485.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2485.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	983	983	983	983	983	
5°	1136	1081	982	889	868	114
15°	1505	1314	940	732	646	428
25°	1623	1429	859	560	509	725
35°	1000	1348	746	450	425	626
45°	511	960	598	358	358	403
55°	305	543	429	270	267	277
65°	178	279	269	175	150	179
75°	82	106	132	85	70	90
85°	20	21	30	21	20	23
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°	983.1	983.1	983.1	983.1	983.1	983.1	983.1	983.1	983.1	983.1	983.1
2.5°	1050.4	1054.0	1050.4	1050.0	1046.1	1044.9	1043.3	1038.2	1028.7	1023.1	1024.3
5°	1136.0	1145.9	1140.4	1139.6	1130.8	1122.1	1116.6	1103.9	1090.4	1081.3	1073.8
7.5°	1231.1	1237.0	1233.0	1228.7	1213.6	1208.9	1195.8	1180.8	1158.2	1141.1	1125.7
10°	1328.5	1333.2	1331.7	1321.4	1311.1	1290.1	1278.2	1254.8	1224.3	1200.2	1177.6
12.5°	1424.3	1429.5	1412.5	1415.6	1393.8	1378.4	1357.8	1326.9	1290.5	1257.6	1227.9
15°	1505.2	1498.8	1498.8	1490.9	1469.1	1446.1	1426.7	1395.8	1351.5	1314.2	1275.0
17.5°	1571.7	1574.5	1571.3	1551.1	1535.3	1511.9	1477.0	1441.8	1403.4	1353.4	1314.6
20°	1630.3	1630.3	1626.8	1614.1	1591.9	1566.5	1528.1	1488.9	1436.6	1386.3	1341.2
22.5°	1654.1	1655.7	1651.3	1641.4	1622.0	1597.4	1566.1	1526.1	1471.9	1413.7	1355.0
25°	1623.2	1630.7	1631.5	1628.7	1622.8	1607.7	1579.6	1538.8	1490.5	1429.1	1368.9
27.5°	1523.4	1533.3	1537.2	1545.9	1562.2	1568.1	1564.6	1537.2	1490.5	1429.9	1370.1
30°	1357.8	1365.7	1391.5	1425.1	1451.3	1475.0	1495.6	1501.2	1477.4	1424.3	1360.6
32.5°	1174.0	1185.5	1211.3	1248.1	1296.0	1340.4	1393.1	1421.2	1426.3	1399.8	1342.0
35°	999.7	1007.7	1031.4	1069.4	1121.7	1181.5	1254.8	1311.9	1350.7	1347.9	1311.9
37.5°	832.6	843.7	867.8	899.1	950.6	1027.1	1096.4	1172.8	1242.5	1276.6	1258.4
40°	701.1	701.5	724.8	757.3	804.9	869.4	946.7	1033.8	1113.8	1179.2	1191.8
42.5°	597.3	597.3	610.8	646.4	677.3	737.1	810.0	896.4	993.4	1071.4	1110.2
45°	511.0	514.5	527.2	548.2	575.1	626.6	685.6	766.0	871.0	960.5	1016.4
47.5°	442.8	449.2	456.7	475.7	497.9	533.9	584.2	659.5	746.6	846.1	923.3
50°	392.1	392.9	403.2	412.7	431.3	458.7	501.5	561.7	640.1	734.8	823.1
52.5°	348.6	348.2	353.3	366.0	380.2	400.1	432.5	486.0	553.3	635.7	727.6
55°	305.0	307.0	311.7	321.2	332.7	347.8	375.1	416.3	471.0	543.4	626.2
57.5°	271.7	272.9	277.3	280.8	291.9	303.0	325.2	354.9	402.8	463.4	544.6
60°	239.2	239.6	240.8	246.8	255.1	265.4	279.2	303.4	342.2	396.5	457.5
62.5°	207.6	208.3	210.3	214.3	220.2	226.6	241.2	259.4	289.9	334.3	387.8
65°	178.2	178.6	181.4	183.0	188.1	194.5	205.2	218.2	240.4	279.2	320.8
67.5°	153.7	153.7	153.7	156.1	160.0	164.4	171.5	182.6	200.4	225.4	264.2
70°	129.9	129.9	130.7	131.9	133.9	137.4	141.0	148.9	161.2	180.6	208.7
72.5°	107.7	108.1	108.9	108.9	109.7	112.5	114.9	119.2	127.5	141.0	162.4
75°	82.4	83.6	85.6	87.1	89.1	88.7	91.5	94.7	97.4	106.2	119.2
77.5°	65.0	64.2	64.2	65.8	66.1	66.5	68.5	71.3	73.7	78.4	83.2
80°	46.7	46.7	47.9	48.3	47.9	48.3	50.3	51.5	52.3	53.9	58.2
82.5°	32.5	33.3	32.5	32.9	33.3	33.7	35.3	35.3	36.0	36.4	37.6
85°	19.8	20.2	20.6	19.8	19.8	19.8	20.6	21.0	21.8	21.4	22.2
87.5°	8.7	8.3	8.7	8.7	9.1	8.7	9.1	9.9	9.1	9.5	9.5
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°	983.1	983.1	983.1	983.1	983.1	983.1	983.1	983.1	983.1	983.1	983.1
2.5°	1020.3	1014.8	1012.0	1005.7	998.2	994.2	990.6	985.5	978.7	971.6	966.5
5°	1064.3	1054.8	1042.9	1028.7	1016.0	1003.7	993.0	982.3	970.0	957.4	944.7
7.5°	1107.9	1090.8	1072.6	1050.8	1029.8	1010.4	993.0	976.0	956.6	939.1	922.9
10°	1153.8	1128.5	1100.3	1070.6	1040.9	1015.2	989.8	966.9	941.5	918.9	899.9
12.5°	1191.1	1160.2	1124.9	1086.1	1048.9	1016.4	986.3	954.6	924.9	899.9	873.0
15°	1233.0	1192.2	1146.7	1102.3	1056.0	1013.6	974.4	939.5	906.7	872.2	848.0
17.5°	1262.0	1214.8	1160.9	1109.5	1056.4	1007.3	962.9	922.5	884.9	850.4	821.9
20°	1287.3	1233.8	1172.4	1111.8	1050.4	997.0	948.2	902.3	863.1	825.1	795.4
22.5°	1301.6	1241.0	1172.4	1108.3	1044.1	985.1	930.4	882.1	838.5	800.5	766.8
25°	1302.4	1239.0	1170.5	1097.6	1027.9	966.5	911.0	859.1	811.6	773.6	738.7
27.5°	1299.2	1225.9	1157.0	1082.9	1011.2	945.9	888.4	833.4	786.2	745.8	710.2
30°	1289.7	1209.7	1134.4	1056.8	983.9	921.7	860.3	808.0	758.5	716.1	680.1
32.5°	1269.1	1189.9	1107.5	1027.5	953.4	888.8	831.4	778.7	730.4	686.8	648.0
35°	1240.6	1160.2	1072.2	990.6	918.1	851.6	796.9	746.2	699.9	653.6	613.2
37.5°	1207.7	1123.7	1037.0	947.5	875.4	812.0	760.9	712.2	667.0	624.6	579.9
40°	1157.0	1082.1	991.8	903.1	828.6	768.0	721.7	678.5	633.0	591.0	546.2
42.5°	1095.6	1034.6	943.1	854.0	780.7	722.9	680.5	638.5	598.1	557.7	510.6
45°	1025.9	977.6	892.0	806.4	732.4	674.5	634.9	597.7	561.3	522.4	478.5
47.5°	948.2	912.6	838.1	748.6	679.3	626.2	588.2	557.3	525.2	486.0	446.4
50°	866.7	845.7	774.4	694.4	629.0	581.1	541.9	513.3	487.6	450.4	415.9
52.5°	779.5	770.8	713.4	637.7	575.1	528.4	496.3	471.4	445.2	415.9	384.2
55°	690.8	696.7	645.6	579.5	520.1	480.5	450.0	428.6	406.4	380.2	355.3
57.5°	598.5	621.1	583.0	523.2	465.8	428.6	405.2	386.2	367.6	345.4	322.8
60°	517.3	535.5	516.1	465.0	416.3	382.2	360.8	347.0	328.4	308.6	292.3
62.5°	438.1	457.9	448.4	409.6	365.2	337.1	318.9	306.2	293.5	276.9	259.8
65°	374.3	387.0	381.4	352.9	320.8	295.9	278.5	268.9	256.3	243.6	228.5
67.5°	299.4	324.4	320.4	304.6	273.7	253.9	241.6	232.9	221.0	211.5	200.8
70°	235.7	258.3	257.9	245.6	230.5	212.3	204.4	197.3	187.0	177.8	169.5
72.5°	182.2	202.4	206.4	197.7	188.5	175.9	168.3	164.0	154.1	148.5	142.2
75°	135.1	150.1	154.1	154.1	149.3	142.2	135.5	132.3	125.2	119.6	115.7
77.5°	95.1	105.4	111.3	112.5	112.9	110.1	103.8	101.4	95.9	93.9	89.5
80°	62.6	68.9	76.0	78.4	80.4	79.6	77.2	75.7	70.5	68.5	66.9
82.5°	38.4	41.2	46.7	52.7	51.5	54.3	52.3	51.1	47.5	47.1	45.6
85°	22.6	23.0	23.8	27.3	29.3	30.1	30.5	29.7	28.5	28.5	25.7
87.5°	9.5	9.1	9.9	9.9	10.3	11.9	13.1	13.5	12.3	11.1	9.9
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	983.1	983.1	983.1	983.1	983.1	983.1	983.1	983.1	983.1	983.1	983.1
2.5°	960.9	957.0	951.8	945.9	938.7	932.4	929.6	932.0	933.2	930.0	929.6
5°	936.0	926.1	918.1	906.3	896.8	888.8	883.3	880.9	881.7	875.4	873.8
7.5°	908.2	897.5	884.5	871.0	858.3	847.2	841.3	838.5	831.8	829.0	824.7
10°	881.7	865.9	853.2	836.5	821.5	807.6	800.9	795.4	788.6	785.5	778.7
12.5°	854.4	835.4	821.1	803.7	788.2	770.8	764.5	753.0	741.5	734.0	724.8
15°	829.0	806.8	789.8	769.2	751.0	732.0	714.9	695.9	688.8	673.8	665.0
17.5°	798.9	775.9	756.9	730.4	703.1	680.1	661.1	641.3	630.6	620.3	615.9
20°	769.2	748.6	719.3	687.2	655.9	629.8	615.1	603.2	591.4	584.6	579.9
22.5°	741.1	713.4	678.1	642.9	611.6	592.6	580.7	568.4	559.3	552.9	546.2
25°	709.0	674.5	638.5	598.9	577.5	559.7	546.2	536.3	530.4	522.0	518.9
27.5°	677.7	636.1	595.3	568.4	546.2	529.2	516.9	509.8	501.8	496.3	491.9
30°	640.5	598.1	562.5	537.1	514.5	501.1	491.6	482.8	476.9	472.5	469.4
32.5°	603.6	561.3	532.7	505.0	488.4	475.3	465.0	459.1	454.7	448.8	447.2
35°	568.4	530.8	504.6	480.1	461.8	450.0	442.0	435.3	431.3	429.8	428.6
37.5°	533.9	502.6	473.7	453.9	436.9	427.8	417.5	414.3	411.5	408.0	409.6
40°	501.5	472.5	447.6	426.2	413.1	402.8	397.3	393.3	390.9	390.9	390.9
42.5°	473.3	445.2	421.0	402.4	389.4	381.0	374.7	371.5	371.1	370.7	373.1
45°	444.0	417.9	393.3	377.5	366.4	357.7	354.1	351.3	351.3	352.9	353.3
47.5°	414.7	390.2	370.3	352.1	341.8	336.3	333.1	331.5	331.5	333.5	335.1
50°	388.2	364.0	344.6	328.8	319.3	314.1	311.3	310.5	311.3	311.3	314.1
52.5°	359.3	338.3	319.3	306.6	295.5	290.7	289.5	288.4	288.8	290.3	291.1
55°	331.1	311.7	293.5	280.8	272.9	269.7	266.2	266.6	265.8	266.6	266.6
57.5°	302.6	285.6	267.8	257.5	250.7	246.0	242.0	243.2	242.0	242.0	241.6
60°	275.3	256.3	242.8	233.7	225.8	221.8	218.2	219.0	217.9	217.1	215.5
62.5°	245.6	230.5	217.9	209.1	203.2	198.4	194.9	193.7	190.5	187.4	183.4
65°	217.1	204.0	192.5	184.2	178.2	174.7	171.9	169.5	163.6	157.2	154.1
67.5°	188.9	179.4	168.3	161.2	156.5	151.7	146.6	142.2	136.3	132.3	130.3
70°	162.0	152.9	143.8	137.0	131.9	127.5	121.6	118.8	114.9	113.3	111.3
72.5°	136.3	127.9	119.6	113.7	108.1	105.0	100.6	97.8	96.6	96.3	94.3
75°	110.1	103.4	97.0	91.5	87.1	84.8	82.8	80.8	80.0	76.4	74.5
77.5°	84.8	80.0	76.0	71.7	68.9	67.3	63.0	60.2	58.6	56.6	56.2
80°	62.6	59.4	55.5	53.1	48.7	47.1	45.6	45.2	44.8	44.4	44.0
82.5°	43.2	40.0	36.0	34.9	34.5	33.7	32.9	32.5	32.1	32.5	32.5
85°	23.8	22.2	22.2	21.8	21.4	21.0	20.6	20.6	20.2	20.6	20.2
87.5°	9.9	9.5	9.5	8.7	9.1	9.1	8.7	8.7	9.1	8.3	8.3
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: P242733

CATALOG NUMBER: S124RDR-S795D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	983.1	983.1	983.1	983.1
2.5°	927.3	928.0	925.3	924.5
5°	870.6	869.8	867.8	868.2
7.5°	821.5	818.7	820.7	817.5
10°	777.1	772.8	769.2	766.0
12.5°	716.5	713.0	707.8	709.8
15°	659.9	653.9	644.4	645.6
17.5°	609.2	610.0	604.4	606.0
20°	571.6	568.8	569.2	568.0
22.5°	545.4	541.9	538.3	535.5
25°	515.3	512.9	509.4	508.6
27.5°	488.8	488.4	486.8	484.8
30°	466.2	465.4	464.6	463.4
32.5°	446.0	445.6	444.8	445.2
35°	427.0	426.6	425.8	425.4
37.5°	409.2	410.4	409.6	409.6
40°	390.5	390.9	391.7	391.3
42.5°	375.1	375.1	376.3	374.7
45°	356.1	358.5	358.1	358.1
47.5°	335.9	338.7	339.1	339.1
50°	316.1	315.3	316.5	316.1
52.5°	291.9	292.3	291.9	291.5
55°	267.0	267.4	266.6	267.0
57.5°	240.4	238.8	240.0	239.2
60°	211.5	208.3	207.6	206.0
62.5°	179.0	177.1	173.9	175.9
65°	150.9	149.3	148.1	149.7
67.5°	128.3	127.5	127.5	126.7
70°	111.3	110.1	110.1	109.3
72.5°	93.9	92.7	93.1	92.7
75°	72.1	70.1	70.1	70.5
77.5°	56.2	55.8	56.6	55.5
80°	44.0	43.6	43.2	44.4
82.5°	31.7	31.7	31.7	33.3
85°	20.6	19.8	20.6	19.8
87.5°	9.1	8.7	8.3	8.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)