

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: P242463

Luminaire Tested: **S123DR-S775D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242463
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-20)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DR-S775D830-X4F0-XX-UDD-A-W
Description: DEFINE 3 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: 2935.8 lumens
Efficiency: N/A
Efficacy: 111.2 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 1.23 / 1.5
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')
CIE Type: Direct

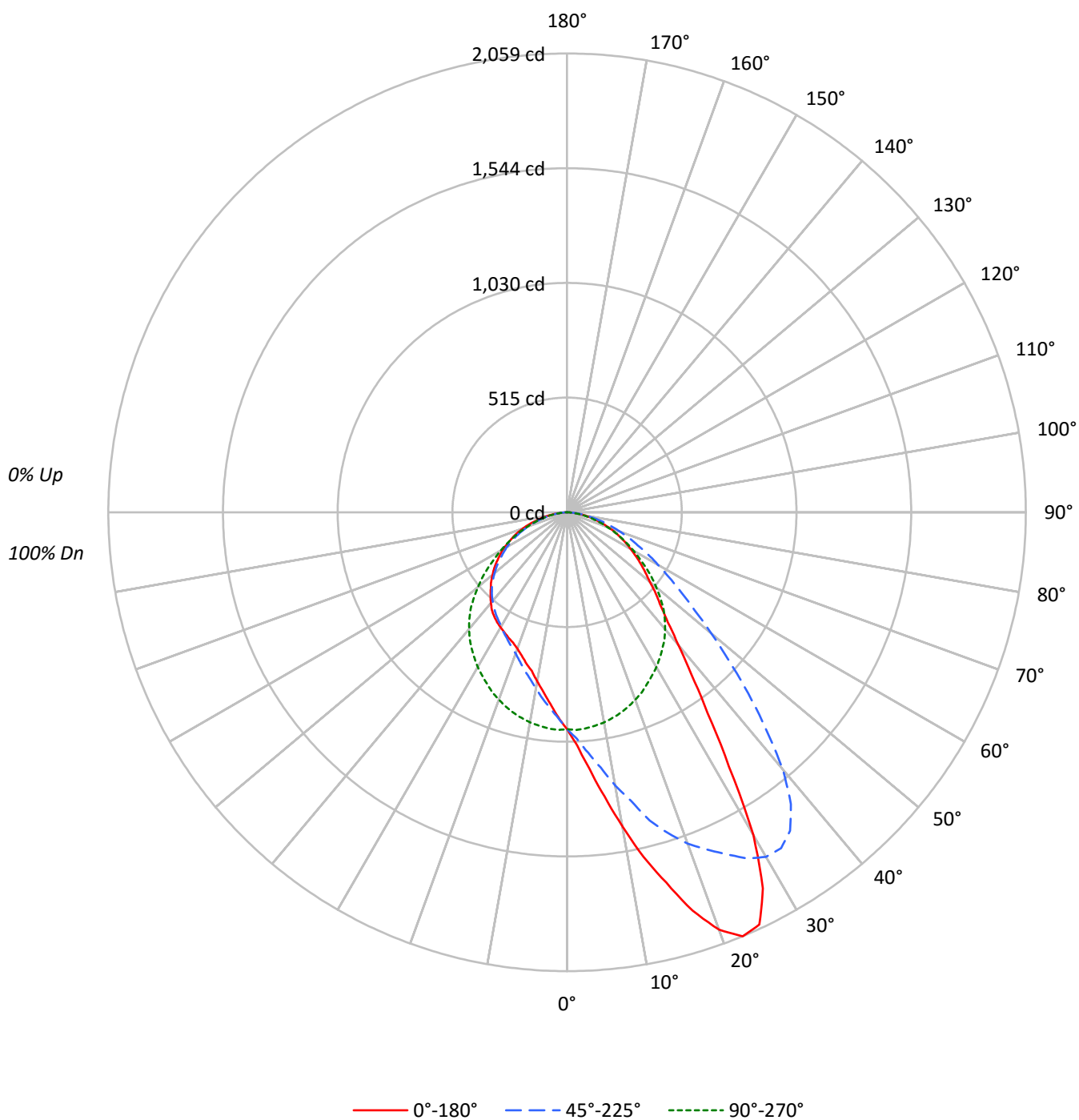
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85		
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	74	72		
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62		
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	53		
5	78	66	57	51	76	64	56	50	62	55	50	60	54	49	59	53	49	47		
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	48	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	39	35	45	39	35	33		
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	36	31	29		
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	33	28	27		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	11790	11790	11790
5°	14060	11840	10493
10°	17598	11780	9477
15°	21585	11685	8823
20°	25713	11537	8401
25°	27304	11357	8307
30°	23402	11226	8350
35°	16276	11039	8437
40°	12258	10820	8412
45°	10179	10494	8304
50°	9117	9828	8229
55°	8525	9112	8126
60°	7998	8364	8044
65°	7514	7623	7784
70°	7049	6780	7414
75°	6313	5938	6795
80°	5528	4865	5857
85°	4325	3533	3936

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.7	3.3
10°-20°	307.3	10.5
20°-30°	517.0	17.6
30°-40°	584.3	19.9
40°-50°	523.3	17.8
50°-60°	422.4	14.4
60°-70°	294.3	10.0
70°-80°	154.5	5.3
80°-90°	37.0	1.3
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°	919.9	31.3
0°-40°	1504.2	51.2
0°-60°	2449.9	83.5
0°-90°	2935.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2935.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	973	973	973	973	973	
5°	1156	1083	973	881	862	119
15°	1720	1432	931	734	703	496
25°	2042	1692	849	631	621	903
35°	1100	1745	746	558	570	710
45°	594	1150	612	477	484	468
55°	403	624	431	368	384	362
65°	262	350	266	250	271	261
75°	135	166	127	126	145	144
85°	31	36	25	25	28	38
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°	972.7	972.7	972.7	972.7	972.7	972.7	972.7	972.7	972.7	972.7	972.7
2.5°	1047.1	1046.2	1043.8	1045.7	1041.9	1036.8	1036.3	1031.6	1017.9	1017.0	1013.2
5°	1155.5	1151.7	1151.3	1150.8	1144.2	1135.2	1118.3	1116.9	1094.2	1082.9	1069.3
7.5°	1286.5	1285.1	1281.3	1277.1	1254.9	1244.1	1228.1	1207.3	1181.0	1155.5	1139.5
10°	1429.8	1445.3	1426.0	1412.8	1400.6	1377.5	1350.6	1317.1	1283.7	1244.6	1214.9
12.5°	1583.4	1589.1	1589.1	1576.8	1556.1	1517.9	1465.1	1427.4	1397.3	1325.6	1300.2
15°	1720.1	1748.8	1730.4	1688.0	1689.0	1655.5	1593.3	1525.0	1488.7	1431.7	1353.9
17.5°	1874.6	1879.8	1874.2	1834.6	1815.3	1766.7	1710.6	1647.0	1578.7	1509.4	1428.8
20°	1993.4	1990.6	1974.1	1955.7	1915.2	1879.4	1816.7	1743.6	1649.4	1581.5	1491.5
22.5°	2059.4	2054.2	2048.5	2033.9	2001.9	1962.8	1908.1	1826.6	1738.0	1638.1	1530.6
25°	2041.5	2047.6	2048.5	2044.3	2032.5	2009.4	1965.1	1901.5	1812.0	1691.8	1583.4
27.5°	1902.9	1918.5	1938.3	1951.5	1972.7	1986.8	1972.7	1932.6	1859.1	1751.6	1618.3
30°	1672.0	1653.2	1699.8	1758.7	1798.8	1869.5	1909.0	1911.4	1874.2	1785.1	1656.0
32.5°	1351.6	1382.2	1396.3	1472.2	1571.6	1653.2	1741.7	1820.4	1838.8	1787.0	1678.1
35°	1099.9	1125.8	1163.5	1201.2	1295.5	1376.5	1515.1	1635.7	1731.9	1744.6	1675.3
37.5°	914.2	929.3	952.4	992.5	1057.0	1157.4	1267.2	1424.1	1556.5	1649.9	1640.4
40°	774.7	778.5	805.4	834.1	884.1	963.2	1059.8	1194.6	1361.4	1506.1	1566.4
42.5°	670.1	679.5	687.1	714.4	751.6	806.3	894.4	1000.0	1149.4	1321.4	1453.8
45°	593.8	603.2	610.3	628.7	656.9	697.0	759.7	861.4	977.8	1149.9	1308.7
47.5°	541.0	540.1	546.2	560.8	581.1	613.1	659.3	727.1	838.8	982.6	1148.9
50°	483.5	491.0	492.9	503.8	518.8	541.0	577.8	633.4	721.0	843.5	993.4
52.5°	443.0	443.9	450.0	457.1	469.8	485.9	516.5	557.0	621.1	721.0	855.8
55°	403.4	403.4	408.6	414.7	422.2	437.8	459.0	491.0	543.4	624.4	738.5
57.5°	366.6	368.5	373.2	374.6	381.2	392.1	410.5	435.9	476.0	541.5	635.7
60°	329.9	334.1	333.6	337.4	343.1	351.1	366.2	386.0	420.8	470.8	547.1
62.5°	297.8	296.4	296.4	301.1	306.8	314.3	322.8	339.3	367.6	410.5	472.7
65°	262.0	261.1	264.4	267.2	269.1	274.7	282.3	297.4	317.2	350.1	400.6
67.5°	230.9	228.1	230.4	231.4	234.7	239.4	246.9	256.4	272.4	300.2	340.7
70°	198.9	196.5	196.0	197.0	199.8	203.1	208.3	217.2	231.9	253.1	280.9
72.5°	165.9	164.5	164.5	166.8	167.8	169.7	172.9	181.0	191.8	206.4	231.9
75°	134.8	134.8	134.8	135.2	136.7	138.5	141.4	145.6	154.6	165.9	183.3
77.5°	106.5	107.0	106.0	105.6	107.9	108.9	109.3	114.0	119.2	127.7	141.4
80°	79.2	76.8	77.8	79.2	80.1	80.6	82.0	82.9	87.2	91.4	100.4
82.5°	53.7	51.8	51.8	54.2	54.2	54.7	56.1	57.5	58.4	62.2	66.0
85°	31.1	31.1	31.6	31.6	32.0	31.6	33.0	33.5	33.5	35.8	38.6
87.5°	14.1	13.2	13.7	14.1	13.7	14.1	14.6	15.1	15.6	16.0	16.5
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°	972.7	972.7	972.7	972.7	972.7	972.7	972.7	972.7	972.7	972.7	972.7
2.5°	1010.4	1006.6	1002.8	996.2	990.6	982.6	980.2	977.4	968.9	961.4	955.7
5°	1064.1	1052.8	1036.3	1021.2	1009.0	992.5	983.0	973.1	959.0	946.3	935.9
7.5°	1115.5	1095.7	1072.6	1047.6	1023.6	1000.5	982.1	965.6	947.2	929.3	915.6
10°	1179.1	1147.0	1111.2	1072.6	1039.6	1007.5	980.7	957.1	931.7	909.5	891.1
12.5°	1251.6	1200.3	1147.5	1098.5	1058.0	1010.4	976.4	944.9	915.2	887.4	866.2
15°	1305.8	1245.5	1187.1	1122.5	1063.1	1007.5	968.9	931.2	897.7	870.4	844.0
17.5°	1359.6	1293.6	1219.1	1141.4	1071.6	1007.5	954.8	914.2	873.2	840.2	814.8
20°	1403.9	1326.1	1238.9	1157.4	1078.2	1004.7	945.3	894.4	849.2	813.9	784.2
22.5°	1442.0	1347.8	1256.8	1168.2	1077.8	997.2	927.9	875.1	825.2	790.8	758.7
25°	1466.1	1357.2	1266.7	1164.5	1066.0	984.0	908.6	849.2	800.2	759.7	727.1
27.5°	1488.7	1355.8	1253.5	1143.3	1051.8	970.3	889.3	825.6	774.3	730.4	697.0
30°	1511.3	1358.1	1230.4	1121.6	1029.2	944.4	866.2	802.1	747.4	702.6	671.5
32.5°	1525.4	1356.7	1209.2	1091.4	993.4	920.8	841.2	774.3	717.7	673.9	644.2
35°	1529.2	1348.7	1184.3	1047.6	954.3	881.2	814.8	746.0	687.1	646.1	612.2
37.5°	1521.2	1334.1	1156.9	1008.0	907.2	834.6	776.6	717.7	661.2	615.5	585.8
40°	1495.3	1320.0	1123.9	965.6	858.2	788.9	741.3	683.8	628.2	585.3	558.0
42.5°	1445.8	1291.2	1087.6	918.5	807.3	738.0	695.1	649.4	597.5	558.0	530.6
45°	1359.1	1246.9	1051.4	871.3	757.3	685.7	647.0	612.2	564.6	525.4	501.9
47.5°	1248.3	1187.1	999.1	821.9	705.0	635.7	595.2	566.4	529.2	497.6	474.6
50°	1131.9	1109.8	945.8	771.0	652.7	585.3	546.7	521.2	496.2	464.7	443.9
52.5°	997.6	1020.3	883.6	718.2	599.4	533.5	497.6	478.8	456.6	432.1	414.7
55°	873.2	922.7	810.1	657.9	546.7	483.5	449.1	431.2	418.0	398.7	383.1
57.5°	752.6	815.7	733.7	597.1	494.8	439.7	405.7	385.5	377.0	366.2	353.4
60°	647.5	709.7	650.8	535.8	442.5	390.7	361.5	345.0	336.5	329.4	319.0
62.5°	553.7	616.9	569.7	473.6	391.1	344.0	319.5	303.5	297.4	294.5	286.1
65°	469.4	523.6	490.6	408.6	342.6	300.2	277.1	265.8	259.7	258.2	252.6
67.5°	396.3	438.3	412.8	351.1	297.4	258.7	238.5	228.6	223.4	222.9	218.2
70°	324.7	363.3	345.0	290.3	245.5	216.8	199.8	191.3	188.5	188.0	185.7
72.5°	269.1	293.1	279.5	236.1	204.1	178.6	167.3	158.3	155.0	156.0	154.6
75°	207.4	227.6	219.1	187.6	159.8	142.8	132.4	126.8	123.9	125.4	123.5
77.5°	158.3	172.5	164.0	140.0	122.1	109.3	101.3	97.5	94.7	94.7	93.8
80°	112.6	120.2	115.9	102.7	88.6	78.2	72.1	69.7	68.3	67.9	67.4
82.5°	72.1	78.2	73.0	65.0	56.6	51.4	48.5	45.2	44.3	44.8	44.3
85°	40.5	42.9	41.0	35.3	31.6	28.7	26.9	25.4	24.5	25.0	24.0
87.5°	17.4	17.9	16.5	14.6	13.7	12.3	12.3	11.3	10.4	10.4	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°	972.7	972.7	972.7	972.7	972.7	972.7	972.7	972.7	972.7	972.7	972.7
2.5°	952.4	949.1	944.4	937.3	931.7	922.7	922.7	924.1	924.1	923.7	922.7
5°	927.4	920.4	911.9	902.0	891.6	881.2	879.4	875.6	872.8	870.9	868.5
7.5°	902.0	890.2	878.4	864.7	853.0	843.1	836.0	829.9	826.1	821.9	818.6
10°	876.1	860.5	845.9	831.3	815.3	802.5	794.5	788.9	784.6	780.9	779.0
12.5°	845.4	827.0	810.6	796.9	779.0	765.8	758.2	756.4	751.2	742.2	737.5
15°	815.7	799.2	779.9	758.7	750.2	734.2	725.3	721.0	718.2	712.1	710.2
17.5°	791.2	769.1	746.9	731.4	715.8	703.1	697.9	692.3	688.5	682.8	681.4
20°	760.6	741.3	721.5	704.5	688.0	673.9	669.6	665.9	662.1	659.8	657.9
22.5°	729.5	710.2	694.6	679.1	661.2	653.2	648.4	644.2	641.8	640.4	638.5
25°	700.8	683.8	665.4	651.3	637.1	631.0	628.2	625.8	623.9	621.6	621.1
27.5°	675.3	656.5	640.9	627.2	616.9	611.7	608.4	607.0	607.0	607.9	608.4
30°	646.1	629.1	616.9	605.6	596.1	591.4	591.0	591.0	592.8	593.3	594.2
32.5°	619.2	606.0	593.8	582.9	576.3	573.5	575.9	575.9	577.3	578.7	580.6
35°	593.3	581.1	571.6	562.2	556.1	557.5	558.4	559.4	561.7	564.6	566.4
37.5°	568.8	557.5	547.6	540.1	536.3	539.1	541.5	543.4	546.2	548.5	550.4
40°	541.9	533.9	524.5	517.9	518.8	520.3	522.1	524.5	526.9	528.3	530.2
42.5°	517.0	508.5	501.9	496.7	498.1	500.0	500.9	501.9	504.7	507.5	508.5
45°	491.5	484.9	478.3	475.0	476.0	476.9	477.8	479.3	481.6	483.5	484.0
47.5°	462.8	458.1	453.8	450.0	451.9	451.5	452.9	455.7	456.6	457.6	460.4
50°	435.4	431.2	426.0	425.1	425.1	425.1	425.5	429.3	429.3	431.2	433.1
52.5°	405.3	402.9	400.1	398.2	397.3	397.3	399.6	401.0	402.0	404.8	406.7
55°	375.6	372.8	369.9	368.5	367.6	368.5	372.3	373.2	375.6	377.0	378.4
57.5°	344.5	342.6	340.2	339.3	339.3	339.8	342.6	345.0	345.4	350.1	352.0
60°	313.9	310.6	308.7	308.7	307.7	312.0	311.0	315.7	316.7	319.5	322.8
62.5°	282.3	277.6	277.1	277.1	279.0	279.5	281.3	282.8	285.6	289.3	291.7
65°	247.9	245.5	248.8	248.3	247.4	250.2	250.2	252.6	255.4	258.7	263.9
67.5°	215.8	213.9	214.9	214.4	215.8	217.7	219.1	221.0	224.3	228.1	231.4
70°	183.3	184.7	182.4	184.3	185.7	186.1	187.1	189.9	193.7	196.0	199.8
72.5°	151.7	151.3	152.2	152.7	154.1	155.0	156.0	159.3	163.5	165.4	168.2
75°	121.6	121.1	122.5	122.5	124.9	125.8	126.8	128.2	132.0	134.8	137.1
77.5°	94.3	94.7	94.3	96.1	95.2	95.7	98.5	99.9	100.4	106.5	107.4
80°	66.9	67.9	68.3	68.8	69.3	68.3	71.6	73.0	73.0	76.3	78.7
82.5°	43.4	43.8	45.2	45.7	45.7	47.1	46.7	47.6	49.0	50.0	53.3
85°	24.0	25.4	25.9	25.4	25.9	25.0	26.4	26.9	27.3	27.3	27.3
87.5°	9.4	9.9	9.4	9.9	9.4	9.9	9.9	9.0	9.0	10.4	8.5
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: P242463

CATALOG NUMBER: S123DR-S775D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	972.7	972.7	972.7	972.7
2.5°	919.4	918.9	922.2	919.9
5°	865.7	867.1	862.4	862.4
7.5°	817.2	815.3	815.7	812.4
10°	773.3	770.5	769.6	770.0
12.5°	737.0	737.0	729.5	729.5
15°	710.2	701.2	700.3	703.1
17.5°	680.5	675.3	675.8	674.8
20°	657.9	655.0	654.6	651.3
22.5°	637.1	636.7	637.1	633.4
25°	620.6	623.0	621.1	621.1
27.5°	609.3	609.3	607.9	607.9
30°	596.1	595.7	596.6	596.6
32.5°	582.9	583.9	583.9	584.4
35°	569.3	569.7	571.2	570.2
37.5°	551.4	553.7	553.2	554.2
40°	530.6	532.0	531.6	531.6
42.5°	509.4	510.4	509.0	508.0
45°	485.9	484.9	486.3	484.4
47.5°	459.9	460.4	460.9	462.8
50°	434.0	436.9	436.9	436.4
52.5°	408.6	409.5	411.9	411.9
55°	382.2	383.1	384.1	384.5
57.5°	355.3	354.9	356.7	357.2
60°	326.6	326.6	330.3	331.8
62.5°	295.9	297.8	301.6	298.8
65°	266.3	270.0	269.6	271.4
67.5°	235.2	237.5	241.3	241.3
70°	203.6	205.9	207.8	209.2
72.5°	172.9	173.9	179.1	176.2
75°	140.4	143.7	146.6	145.1
77.5°	109.3	113.6	114.5	113.1
80°	82.0	81.5	84.4	83.9
82.5°	54.7	54.2	55.1	55.6
85°	29.2	30.6	28.7	28.3
87.5°	8.5	8.5	8.0	7.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)