

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: P242468

Luminaire Tested: **S123DR-S775D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242468
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-S775D835-X4F0-XX-UDD-A-W
Description: DEFINE 3 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3114.8 lumens
Efficiency: N/A
Efficacy: 118.0 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

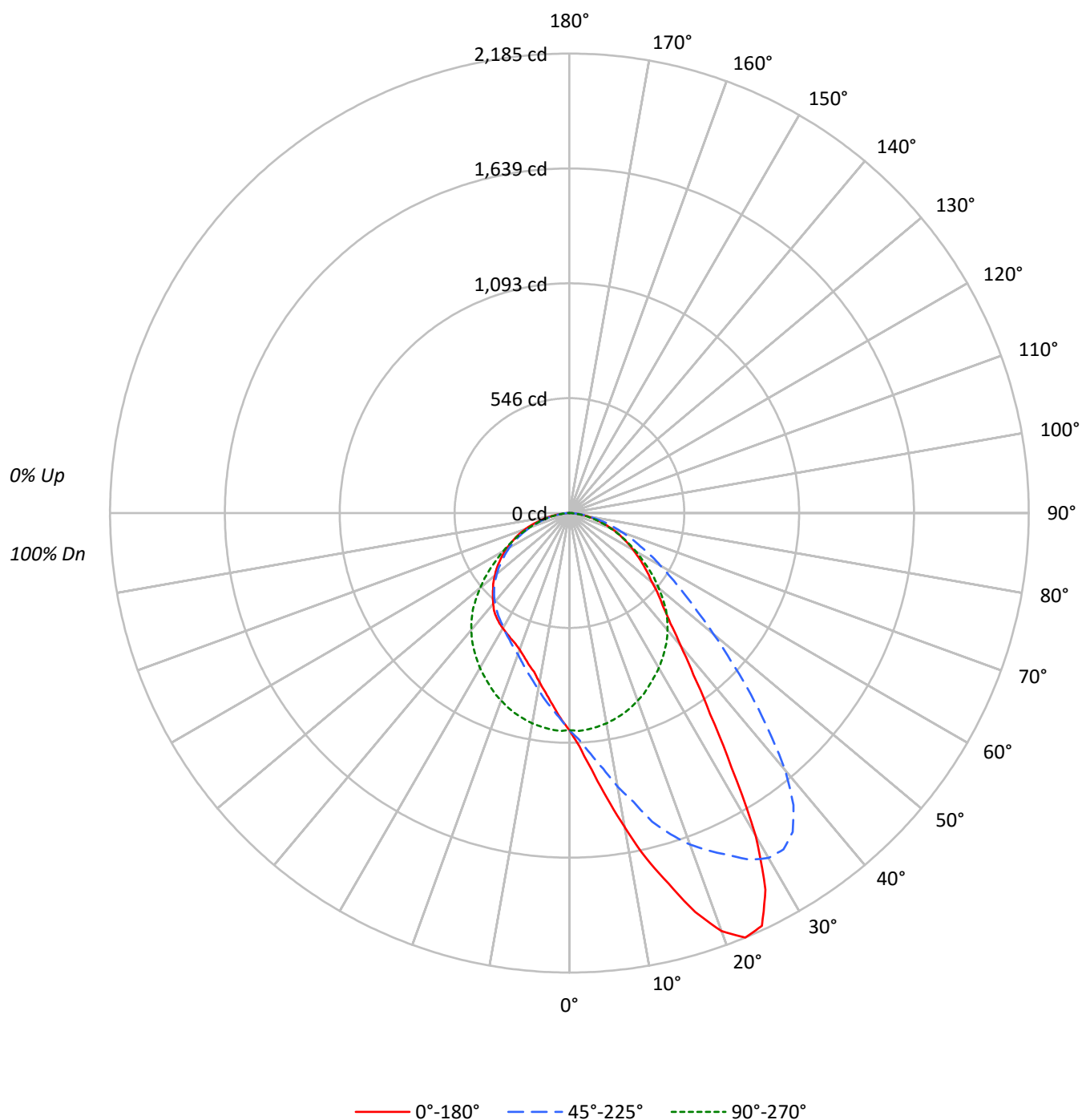
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
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°	12509	12509	12509
5°	14917	12563	11133
10°	18670	12499	10056
15°	22900	12398	9361
20°	27280	12241	8913
25°	28967	12050	8814
30°	24828	11911	8860
35°	17268	11712	8952
40°	13007	11480	8924
45°	10799	11134	8811
50°	9674	10428	8731
55°	9045	9668	8622
60°	8485	8873	8533
65°	7973	8088	8260
70°	7478	7194	7868
75°	6697	6299	7212
80°	5863	5165	6212
85°	4589	3755	4172

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.5	3.3
10°-20°	326.0	10.5
20°-30°	548.5	17.6
30°-40°	619.9	19.9
40°-50°	555.3	17.8
50°-60°	448.2	14.4
60°-70°	312.3	10.0
70°-80°	163.9	5.3
80°-90°	39.3	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°	976.0	31.3
0°-40°	1595.9	51.2
0°-60°	2599.3	83.5
0°-90°	3114.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3114.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1032	1032	1032	1032	1032	
5°	1226	1149	1032	935	915	126
15°	1825	1519	988	779	746	527
25°	2166	1795	901	670	659	958
35°	1167	1851	792	592	605	753
45°	630	1220	650	506	514	497
55°	428	662	458	391	408	384
65°	278	372	282	266	288	277
75°	143	176	134	134	154	153
85°	33	38	27	26	30	40
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°	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0
2.5°	1111.0	1110.0	1107.5	1109.5	1105.5	1100.0	1099.5	1094.5	1080.0	1079.0	1075.0
5°	1226.0	1222.0	1221.5	1221.0	1214.0	1204.5	1186.5	1185.0	1161.0	1149.0	1134.5
7.5°	1364.9	1363.4	1359.4	1354.9	1331.4	1319.9	1302.9	1280.9	1252.9	1226.0	1209.0
10°	1516.9	1533.4	1512.9	1498.9	1485.9	1461.4	1432.9	1397.4	1361.9	1320.4	1288.9
12.5°	1679.9	1685.9	1685.9	1672.9	1650.9	1610.4	1554.4	1514.4	1482.4	1406.4	1379.4
15°	1824.9	1855.4	1835.9	1790.9	1791.9	1756.4	1690.4	1617.9	1579.4	1518.9	1436.4
17.5°	1988.9	1994.4	1988.4	1946.4	1925.9	1874.4	1814.9	1747.4	1674.9	1601.4	1515.9
20°	2114.9	2111.9	2094.4	2074.9	2031.9	1993.9	1927.4	1849.9	1749.9	1677.9	1582.4
22.5°	2184.9	2179.4	2173.4	2157.9	2123.9	2082.4	2024.4	1937.9	1843.9	1737.9	1623.9
25°	2165.9	2172.4	2173.4	2168.9	2156.4	2131.9	2084.9	2017.4	1922.4	1794.9	1679.9
27.5°	2018.9	2035.4	2056.4	2070.4	2092.9	2107.9	2092.9	2050.4	1972.4	1858.4	1716.9
30°	1773.9	1753.9	1803.4	1865.9	1908.4	1983.4	2025.4	2027.9	1988.4	1893.9	1756.9
32.5°	1433.9	1466.4	1481.4	1561.9	1667.4	1753.9	1847.9	1931.4	1950.9	1895.9	1780.4
35°	1167.0	1194.5	1234.4	1274.4	1374.4	1460.4	1607.4	1735.4	1837.4	1850.9	1777.4
37.5°	970.0	986.0	1010.5	1053.0	1121.5	1227.9	1344.4	1510.9	1651.4	1750.4	1740.4
40°	822.0	826.0	854.5	885.0	938.0	1022.0	1124.5	1267.4	1444.4	1597.9	1661.9
42.5°	711.0	721.0	729.0	758.0	797.5	855.5	949.0	1061.0	1219.5	1401.9	1542.4
45°	630.0	640.0	647.5	667.0	697.0	739.5	806.0	914.0	1037.5	1220.0	1388.4
47.5°	574.0	573.0	579.5	595.0	616.5	650.5	699.5	771.5	890.0	1042.5	1219.0
50°	513.0	521.0	523.0	534.5	550.5	574.0	613.0	672.0	765.0	895.0	1054.0
52.5°	470.0	471.0	477.5	485.0	498.5	515.5	548.0	591.0	659.0	765.0	908.0
55°	428.0	428.0	433.5	440.0	448.0	464.5	487.0	521.0	576.5	662.5	783.5
57.5°	389.0	391.0	396.0	397.5	404.5	416.0	435.5	462.5	505.0	574.5	674.5
60°	350.0	354.5	354.0	358.0	364.0	372.5	388.5	409.5	446.5	499.5	580.5
62.5°	316.0	314.5	314.5	319.5	325.5	333.5	342.5	360.0	390.0	435.5	501.5
65°	278.0	277.0	280.5	283.5	285.5	291.5	299.5	315.5	336.5	371.5	425.0
67.5°	245.0	242.0	244.5	245.5	249.0	254.0	262.0	272.0	289.0	318.5	361.5
70°	211.0	208.5	208.0	209.0	212.0	215.5	221.0	230.5	246.0	268.5	298.0
72.5°	176.0	174.5	174.5	177.0	178.0	180.0	183.5	192.0	203.5	219.0	246.0
75°	143.0	143.0	143.0	143.5	145.0	147.0	150.0	154.5	164.0	176.0	194.5
77.5°	113.0	113.5	112.5	112.0	114.5	115.5	116.0	121.0	126.5	135.5	150.0
80°	84.0	81.5	82.5	84.0	85.0	85.5	87.0	88.0	92.5	97.0	106.5
82.5°	57.0	55.0	55.0	57.5	57.5	58.0	59.5	61.0	62.0	66.0	70.0
85°	33.0	33.0	33.5	33.5	34.0	33.5	35.0	35.5	35.5	38.0	41.0
87.5°	15.0	14.0	14.5	15.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5
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°	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0
2.5°	1072.0	1068.0	1064.0	1057.0	1051.0	1042.5	1040.0	1037.0	1028.0	1020.0	1014.0
5°	1129.0	1117.0	1099.5	1083.5	1070.5	1053.0	1043.0	1032.5	1017.5	1004.0	993.0
7.5°	1183.5	1162.5	1138.0	1111.5	1086.0	1061.5	1042.0	1024.5	1005.0	986.0	971.5
10°	1250.9	1217.0	1179.0	1138.0	1103.0	1069.0	1040.5	1015.5	988.5	965.0	945.5
12.5°	1327.9	1273.4	1217.5	1165.5	1122.5	1072.0	1036.0	1002.5	971.0	941.5	919.0
15°	1385.4	1321.4	1259.4	1191.0	1128.0	1069.0	1028.0	988.0	952.5	923.5	895.5
17.5°	1442.4	1372.4	1293.4	1211.0	1137.0	1069.0	1013.0	970.0	926.5	891.5	864.5
20°	1489.4	1406.9	1314.4	1227.9	1144.0	1066.0	1003.0	949.0	901.0	863.5	832.0
22.5°	1529.9	1429.9	1333.4	1239.4	1143.5	1058.0	984.5	928.5	875.5	839.0	805.0
25°	1555.4	1439.9	1343.9	1235.4	1131.0	1044.0	964.0	901.0	849.0	806.0	771.5
27.5°	1579.4	1438.4	1329.9	1213.0	1116.0	1029.5	943.5	876.0	821.5	775.0	739.5
30°	1603.4	1440.9	1305.4	1190.0	1092.0	1002.0	919.0	851.0	793.0	745.5	712.5
32.5°	1618.4	1439.4	1282.9	1158.0	1054.0	977.0	892.5	821.5	761.5	715.0	683.5
35°	1622.4	1430.9	1256.4	1111.5	1012.5	935.0	864.5	791.5	729.0	685.5	649.5
37.5°	1613.9	1415.4	1227.4	1069.5	962.5	885.5	824.0	761.5	701.5	653.0	621.5
40°	1586.4	1400.4	1192.5	1024.5	910.5	837.0	786.5	725.5	666.5	621.0	592.0
42.5°	1533.9	1369.9	1154.0	974.5	856.5	783.0	737.5	689.0	634.0	592.0	563.0
45°	1441.9	1322.9	1115.5	924.5	803.5	727.5	686.5	649.5	599.0	557.5	532.5
47.5°	1324.4	1259.4	1060.0	872.0	748.0	674.5	631.5	601.0	561.5	528.0	503.5
50°	1201.0	1177.5	1003.5	818.0	692.5	621.0	580.0	553.0	526.5	493.0	471.0
52.5°	1058.5	1082.5	937.5	762.0	636.0	566.0	528.0	508.0	484.5	458.5	440.0
55°	926.5	979.0	859.5	698.0	580.0	513.0	476.5	457.5	443.5	423.0	406.5
57.5°	798.5	865.5	778.5	633.5	525.0	466.5	430.5	409.0	400.0	388.5	375.0
60°	687.0	753.0	690.5	568.5	469.5	414.5	383.5	366.0	357.0	349.5	338.5
62.5°	587.5	654.5	604.5	502.5	415.0	365.0	339.0	322.0	315.5	312.5	303.5
65°	498.0	555.5	520.5	433.5	363.5	318.5	294.0	282.0	275.5	274.0	268.0
67.5°	420.5	465.0	438.0	372.5	315.5	274.5	253.0	242.5	237.0	236.5	231.5
70°	344.5	385.5	366.0	308.0	260.5	230.0	212.0	203.0	200.0	199.5	197.0
72.5°	285.5	311.0	296.5	250.5	216.5	189.5	177.5	168.0	164.5	165.5	164.0
75°	220.0	241.5	232.5	199.0	169.5	151.5	140.5	134.5	131.5	133.0	131.0
77.5°	168.0	183.0	174.0	148.5	129.5	116.0	107.5	103.5	100.5	100.5	99.5
80°	119.5	127.5	123.0	109.0	94.0	83.0	76.5	74.0	72.5	72.0	71.5
82.5°	76.5	83.0	77.5	69.0	60.0	54.5	51.5	48.0	47.0	47.5	47.0
85°	43.0	45.5	43.5	37.5	33.5	30.5	28.5	27.0	26.0	26.5	25.5
87.5°	18.5	19.0	17.5	15.5	14.5	13.0	13.0	12.0	11.0	11.0	10.5
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0	1032.0
2.5°	1010.5	1007.0	1002.0	994.5	988.5	979.0	979.0	980.5	980.5	980.0	979.0
5°	984.0	976.5	967.5	957.0	946.0	935.0	933.0	929.0	926.0	924.0	921.5
7.5°	957.0	944.5	932.0	917.5	905.0	894.5	887.0	880.5	876.5	872.0	868.5
10°	929.5	913.0	897.5	882.0	865.0	851.5	843.0	837.0	832.5	828.5	826.5
12.5°	897.0	877.5	860.0	845.5	826.5	812.5	804.5	802.5	797.0	787.5	782.5
15°	865.5	848.0	827.5	805.0	796.0	779.0	769.5	765.0	762.0	755.5	753.5
17.5°	839.5	816.0	792.5	776.0	759.5	746.0	740.5	734.5	730.5	724.5	723.0
20°	807.0	786.5	765.5	747.5	730.0	715.0	710.5	706.5	702.5	700.0	698.0
22.5°	774.0	753.5	737.0	720.5	701.5	693.0	688.0	683.5	681.0	679.5	677.5
25°	743.5	725.5	706.0	691.0	676.0	669.5	666.5	664.0	662.0	659.5	659.0
27.5°	716.5	696.5	680.0	665.5	654.5	649.0	645.5	644.0	644.0	645.0	645.5
30°	685.5	667.5	654.5	642.5	632.5	627.5	627.0	627.0	629.0	629.5	630.5
32.5°	657.0	643.0	630.0	618.5	611.5	608.5	611.0	611.0	612.5	614.0	616.0
35°	629.5	616.5	606.5	596.5	590.0	591.5	592.5	593.5	596.0	599.0	601.0
37.5°	603.5	591.5	581.0	573.0	569.0	572.0	574.5	576.5	579.5	582.0	584.0
40°	575.0	566.5	556.5	549.5	550.5	552.0	554.0	556.5	559.0	560.5	562.5
42.5°	548.5	539.5	532.5	527.0	528.5	530.5	531.5	532.5	535.5	538.5	539.5
45°	521.5	514.5	507.5	504.0	505.0	506.0	507.0	508.5	511.0	513.0	513.5
47.5°	491.0	486.0	481.5	477.5	479.5	479.0	480.5	483.5	484.5	485.5	488.5
50°	462.0	457.5	452.0	451.0	451.0	451.0	451.5	455.5	455.5	457.5	459.5
52.5°	430.0	427.5	424.5	422.5	421.5	421.5	424.0	425.5	426.5	429.5	431.5
55°	398.5	395.5	392.5	391.0	390.0	391.0	395.0	396.0	398.5	400.0	401.5
57.5°	365.5	363.5	361.0	360.0	360.0	360.5	363.5	366.0	366.5	371.5	373.5
60°	333.0	329.5	327.5	327.5	326.5	331.0	330.0	335.0	336.0	339.0	342.5
62.5°	299.5	294.5	294.0	294.0	296.0	296.5	298.5	300.0	303.0	307.0	309.5
65°	263.0	260.5	264.0	263.5	262.5	265.5	265.5	268.0	271.0	274.5	280.0
67.5°	229.0	227.0	228.0	227.5	229.0	231.0	232.5	234.5	238.0	242.0	245.5
70°	194.5	196.0	193.5	195.5	197.0	197.5	198.5	201.5	205.5	208.0	212.0
72.5°	161.0	160.5	161.5	162.0	163.5	164.5	165.5	169.0	173.5	175.5	178.5
75°	129.0	128.5	130.0	130.0	132.5	133.5	134.5	136.0	140.0	143.0	145.5
77.5°	100.0	100.5	100.0	102.0	101.0	101.5	104.5	106.0	106.5	113.0	114.0
80°	71.0	72.0	72.5	73.0	73.5	72.5	76.0	77.5	77.5	81.0	83.5
82.5°	46.0	46.5	48.0	48.5	48.5	50.0	49.5	50.5	52.0	53.0	56.5
85°	25.5	27.0	27.5	27.0	27.5	26.5	28.0	28.5	29.0	29.0	29.0
87.5°	10.0	10.5	10.0	10.5	10.0	10.5	10.5	9.5	9.5	11.0	9.0
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: P242468

CATALOG NUMBER: S123DR-S775D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1032.0	1032.0	1032.0	1032.0
2.5°	975.5	975.0	978.5	976.0
5°	918.5	920.0	915.0	915.0
7.5°	867.0	865.0	865.5	862.0
10°	820.5	817.5	816.5	817.0
12.5°	782.0	782.0	774.0	774.0
15°	753.5	744.0	743.0	746.0
17.5°	722.0	716.5	717.0	716.0
20°	698.0	695.0	694.5	691.0
22.5°	676.0	675.5	676.0	672.0
25°	658.5	661.0	659.0	659.0
27.5°	646.5	646.5	645.0	645.0
30°	632.5	632.0	633.0	633.0
32.5°	618.5	619.5	619.5	620.0
35°	604.0	604.5	606.0	605.0
37.5°	585.0	587.5	587.0	588.0
40°	563.0	564.5	564.0	564.0
42.5°	540.5	541.5	540.0	539.0
45°	515.5	514.5	516.0	514.0
47.5°	488.0	488.5	489.0	491.0
50°	460.5	463.5	463.5	463.0
52.5°	433.5	434.5	437.0	437.0
55°	405.5	406.5	407.5	408.0
57.5°	377.0	376.5	378.5	379.0
60°	346.5	346.5	350.5	352.0
62.5°	314.0	316.0	320.0	317.0
65°	282.5	286.5	286.0	288.0
67.5°	249.5	252.0	256.0	256.0
70°	216.0	218.5	220.5	222.0
72.5°	183.5	184.5	190.0	187.0
75°	149.0	152.5	155.5	154.0
77.5°	116.0	120.5	121.5	120.0
80°	87.0	86.5	89.5	89.0
82.5°	58.0	57.5	58.5	59.0
85°	31.0	32.5	30.5	30.0
87.5°	9.0	9.0	8.5	8.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)