

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: P242483

Luminaire Tested: **S123DR-S775D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242483
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-S775D935-X4F0-XX-UDD-A-W
Description: DEFINE 3 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2681.8 lumens
Efficiency: N/A
Efficacy: 101.6 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

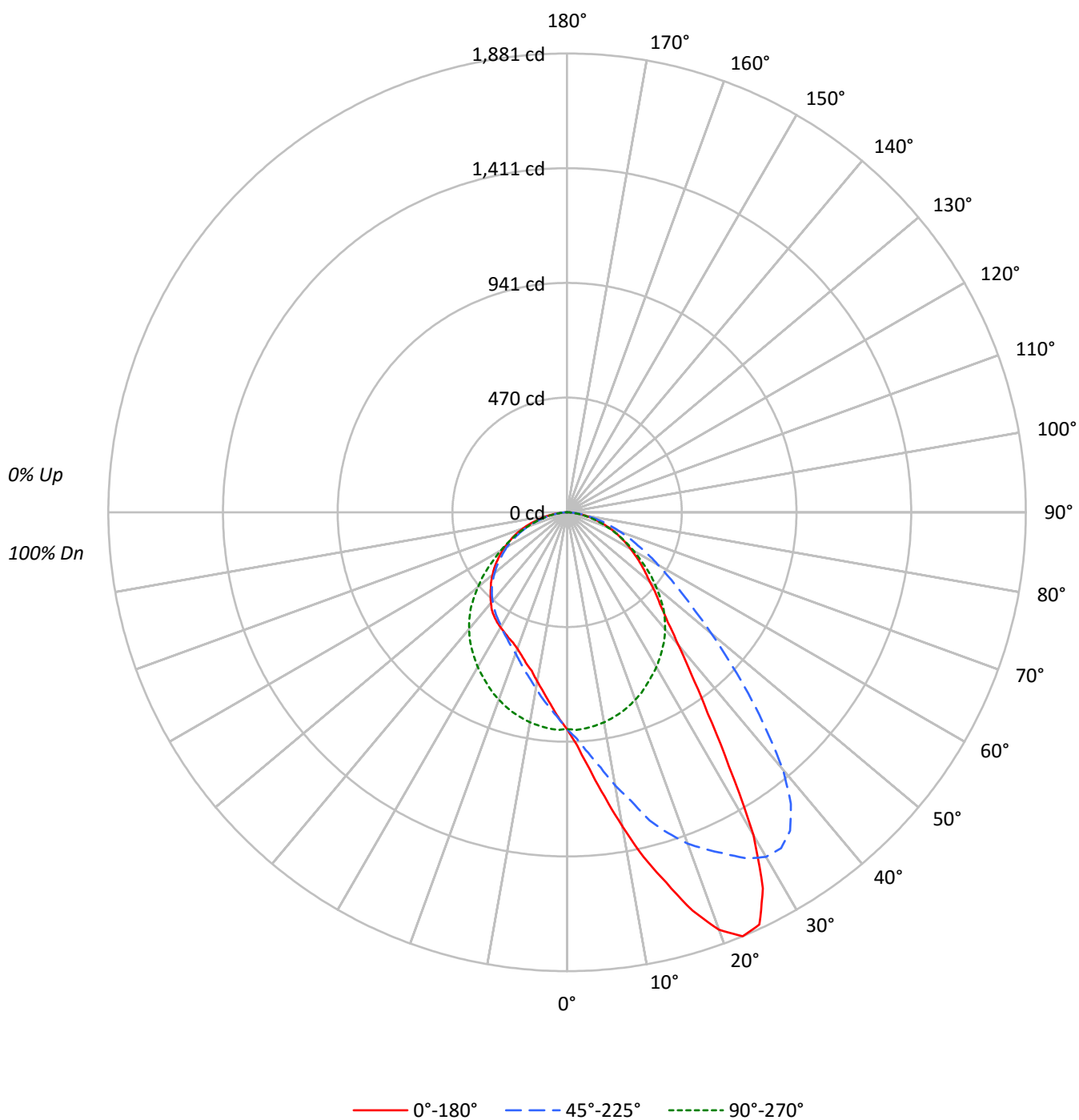
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	110	105	101	98	107	103	99	96		99	96	93		95	92	90		91	89	87
2	100	93	86	81	98	91	85	80		87	82	78		84	80	76		81	78	74
3	92	82	74	68	89	80	73	67		77	71	66		75	69	65		72	68	64
4	84	73	65	58	82	72	64	58		69	62	57		67	61	56		65	60	56
5	78	66	57	51	76	64	56	50		62	55	50		60	54	49		59	53	49
6	72	59	51	44	70	58	50	44		56	49	44		55	48	43		53	48	43
7	67	54	45	39	65	53	45	39		52	44	39		50	44	39		49	43	38
8	62	49	41	35	61	49	41	35		47	40	35		46	39	35		45	39	35
9	58	45	37	32	57	45	37	32		43	36	32		42	36	31		41	36	31
10	55	42	34	29	53	41	34	29		40	33	29		39	33	29		38	33	28

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	10770	10770	10770
5°	12843	10816	9586
10°	16076	10761	8658
15°	19718	10674	8060
20°	23488	10540	7674
25°	24940	10374	7589
30°	21378	10255	7628
35°	14867	10084	7708
40°	11198	9883	7684
45°	9298	9586	7585
50°	8329	8978	7517
55°	7787	8324	7424
60°	7304	7639	7348
65°	6863	6964	7113
70°	6439	6195	6773
75°	5765	5423	6210
80°	5047	4446	5347
85°	3950	3227	3588

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.4	3.3
10°-20°	280.7	10.5
20°-30°	472.3	17.6
30°-40°	533.7	19.9
40°-50°	478.1	17.8
50°-60°	385.9	14.4
60°-70°	268.9	10.0
70°-80°	141.1	5.3
80°-90°	33.8	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°	840.3	31.3
0°-40°	1374.0	51.2
0°-60°	2238.0	83.5
0°-90°	2681.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2681.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	888	888	888	888	888	
5°	1056	989	889	805	788	109
15°	1571	1308	851	671	642	454
25°	1865	1545	776	576	567	824
35°	1005	1594	682	509	521	648
45°	542	1050	559	436	442	428
55°	368	570	394	337	351	331
65°	239	320	243	229	248	238
75°	123	152	116	115	133	132
85°	28	33	23	23	26	34
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°	888.5	888.5	888.5	888.5	888.5	888.5	888.5	888.5	888.5	888.5	888.5
2.5°	956.5	955.7	953.5	955.2	951.8	947.1	946.6	942.3	929.8	929.0	925.5
5°	1055.5	1052.1	1051.7	1051.2	1045.2	1037.0	1021.5	1020.2	999.6	989.2	976.8
7.5°	1175.2	1173.9	1170.5	1166.6	1146.4	1136.5	1121.8	1102.9	1078.8	1055.5	1040.9
10°	1306.1	1320.3	1302.6	1290.6	1279.4	1258.3	1233.8	1203.2	1172.6	1136.9	1109.8
12.5°	1446.4	1451.6	1451.6	1440.4	1421.5	1386.6	1338.4	1303.9	1276.4	1210.9	1187.7
15°	1571.3	1597.5	1580.7	1542.0	1542.8	1512.3	1455.5	1393.0	1359.9	1307.8	1236.8
17.5°	1712.5	1717.2	1712.0	1675.9	1658.2	1613.9	1562.7	1504.5	1442.1	1378.8	1305.2
20°	1820.9	1818.4	1803.3	1786.5	1749.5	1716.8	1659.5	1592.8	1506.7	1444.7	1362.5
22.5°	1881.2	1876.5	1871.3	1858.0	1828.7	1793.0	1743.0	1668.5	1587.6	1496.4	1398.2
25°	1864.8	1870.4	1871.3	1867.4	1856.7	1835.6	1795.1	1737.0	1655.2	1545.4	1446.4
27.5°	1738.3	1752.5	1770.6	1782.6	1802.0	1814.9	1802.0	1765.4	1698.3	1600.1	1478.3
30°	1527.4	1510.1	1552.8	1606.6	1643.2	1707.7	1743.9	1746.0	1712.0	1630.7	1512.7
32.5°	1234.6	1262.6	1275.5	1344.8	1435.7	1510.1	1591.1	1663.0	1679.7	1632.4	1532.9
35°	1004.7	1028.4	1062.9	1097.3	1183.4	1257.4	1384.0	1494.2	1582.0	1593.6	1530.4
37.5°	835.1	848.9	870.0	906.6	965.6	1057.3	1157.6	1300.9	1421.9	1507.1	1498.5
40°	707.7	711.2	735.7	762.0	807.6	879.9	968.2	1091.3	1243.7	1375.8	1430.9
42.5°	612.1	620.8	627.6	652.6	686.6	736.6	817.1	913.5	1049.9	1207.1	1328.0
45°	542.4	551.0	557.5	574.3	600.1	636.7	693.9	786.9	893.3	1050.4	1195.4
47.5°	494.2	493.3	498.9	512.3	530.8	560.1	602.2	664.2	766.3	897.6	1049.5
50°	441.7	448.6	450.3	460.2	474.0	494.2	527.8	578.6	658.6	770.6	907.5
52.5°	404.7	405.5	411.1	417.6	429.2	443.8	471.8	508.8	567.4	658.6	781.8
55°	368.5	368.5	373.2	378.8	385.7	399.9	419.3	448.6	496.3	570.4	674.6
57.5°	334.9	336.6	340.9	342.2	348.3	358.2	375.0	398.2	434.8	494.6	580.7
60°	301.3	305.2	304.8	308.2	313.4	320.7	334.5	352.6	384.4	430.1	499.8
62.5°	272.1	270.8	270.8	275.1	280.2	287.1	294.9	309.9	335.8	375.0	431.8
65°	239.3	238.5	241.5	244.1	245.8	251.0	257.9	271.6	289.7	319.8	365.9
67.5°	210.9	208.4	210.5	211.4	214.4	218.7	225.6	234.2	248.8	274.2	311.2
70°	181.7	179.5	179.1	179.9	182.5	185.5	190.3	198.5	211.8	231.2	256.6
72.5°	151.5	150.2	150.2	152.4	153.3	155.0	158.0	165.3	175.2	188.6	211.8
75°	123.1	123.1	123.1	123.5	124.8	126.6	129.1	133.0	141.2	151.5	167.5
77.5°	97.3	97.7	96.9	96.4	98.6	99.4	99.9	104.2	108.9	116.7	129.1
80°	72.3	70.2	71.0	72.3	73.2	73.6	74.9	75.8	79.6	83.5	91.7
82.5°	49.1	47.4	47.4	49.5	49.5	49.9	51.2	52.5	53.4	56.8	60.3
85°	28.4	28.4	28.8	28.8	29.3	28.8	30.1	30.6	30.6	32.7	35.3
87.5°	12.9	12.1	12.5	12.9	12.5	12.9	13.3	13.8	14.2	14.6	15.1
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°	888.5	888.5	888.5	888.5	888.5	888.5	888.5	888.5	888.5	888.5	888.5
2.5°	923.0	919.5	916.1	910.0	904.9	897.6	895.4	892.8	885.1	878.2	873.0
5°	972.0	961.7	946.6	932.9	921.7	906.6	898.0	888.9	876.0	864.4	854.9
7.5°	1019.0	1000.9	979.8	957.0	935.0	913.9	897.1	882.1	865.3	848.9	836.4
10°	1077.1	1047.8	1015.1	979.8	949.6	920.4	895.8	874.3	851.1	830.8	814.0
12.5°	1143.4	1096.4	1048.2	1003.5	966.4	923.0	892.0	863.1	836.0	810.6	791.2
15°	1192.9	1137.8	1084.4	1025.4	971.2	920.4	885.1	850.6	820.1	795.1	771.0
17.5°	1241.9	1181.7	1113.7	1042.6	978.9	920.4	872.2	835.1	797.7	767.6	744.3
20°	1282.4	1211.4	1131.7	1057.3	984.9	917.8	863.5	817.1	775.7	743.4	716.3
22.5°	1317.3	1231.2	1148.1	1067.2	984.5	910.9	847.6	799.4	753.8	722.3	693.1
25°	1339.2	1239.8	1157.1	1063.7	973.8	898.8	830.0	775.7	731.0	693.9	664.2
27.5°	1359.9	1238.5	1145.1	1044.4	960.8	886.4	812.3	754.2	707.3	667.2	636.7
30°	1380.6	1240.7	1124.0	1024.5	940.2	862.7	791.2	732.7	682.7	641.8	613.4
32.5°	1393.5	1239.4	1104.6	997.0	907.5	841.2	768.4	707.3	655.6	615.6	588.5
35°	1396.9	1232.0	1081.8	957.0	871.7	805.0	744.3	681.5	627.6	590.2	559.2
37.5°	1389.6	1218.7	1056.8	920.8	828.7	762.4	709.4	655.6	604.0	562.2	535.1
40°	1365.9	1205.8	1026.7	882.1	783.9	720.6	677.1	624.6	573.8	534.7	509.7
42.5°	1320.7	1179.5	993.6	839.0	737.4	674.1	635.0	593.2	545.9	509.7	484.7
45°	1241.5	1139.1	960.4	796.0	691.8	626.4	591.1	559.2	515.7	480.0	458.5
47.5°	1140.3	1084.4	912.6	750.8	644.0	580.7	543.7	517.4	483.4	454.6	433.5
50°	1034.0	1013.8	864.0	704.3	596.2	534.7	499.4	476.1	453.3	424.5	405.5
52.5°	911.3	932.0	807.2	656.1	547.6	487.3	454.6	437.4	417.1	394.8	378.8
55°	797.7	842.9	740.0	601.0	499.4	441.7	410.2	393.9	381.8	364.2	350.0
57.5°	687.5	745.2	670.3	545.4	452.0	401.6	370.6	352.1	344.4	334.5	322.9
60°	591.5	648.3	594.5	489.5	404.2	356.9	330.2	315.1	307.4	300.9	291.4
62.5°	505.8	563.5	520.5	432.6	357.3	314.3	291.9	277.2	271.6	269.1	261.3
65°	428.8	478.3	448.1	373.2	313.0	274.2	253.1	242.8	237.2	235.9	230.7
67.5°	362.0	400.3	377.1	320.7	271.6	236.3	217.8	208.8	204.0	203.6	199.3
70°	296.6	331.9	315.1	265.2	224.3	198.0	182.5	174.8	172.2	171.8	169.6
72.5°	245.8	267.8	255.3	215.7	186.4	163.2	152.8	144.6	141.6	142.5	141.2
75°	189.4	207.9	200.2	171.3	145.9	130.4	121.0	115.8	113.2	114.5	112.8
77.5°	144.6	157.6	149.8	127.9	111.5	99.9	92.6	89.1	86.5	86.5	85.7
80°	102.9	109.8	105.9	93.8	80.9	71.5	65.9	63.7	62.4	62.0	61.6
82.5°	65.9	71.5	66.7	59.4	51.7	46.9	44.3	41.3	40.5	40.9	40.5
85°	37.0	39.2	37.5	32.3	28.8	26.3	24.5	23.2	22.4	22.8	22.0
87.5°	15.9	16.4	15.1	13.3	12.5	11.2	11.2	10.3	9.5	9.5	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

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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	888.5	888.5	888.5	888.5	888.5	888.5	888.5	888.5	888.5	888.5	888.5
2.5°	870.0	867.0	862.7	856.2	851.1	842.9	842.9	844.2	844.2	843.7	842.9
5°	847.2	840.7	833.0	823.9	814.5	805.0	803.3	799.8	797.3	795.5	793.4
7.5°	823.9	813.2	802.4	789.9	779.2	770.1	763.7	758.1	754.6	750.8	747.7
10°	800.3	786.1	772.7	759.4	744.7	733.1	725.8	720.6	716.8	713.3	711.6
12.5°	772.3	755.5	740.4	727.9	711.6	699.5	692.6	690.9	686.2	678.0	673.7
15°	745.2	730.1	712.4	693.1	685.3	670.7	662.5	658.6	656.1	650.5	648.7
17.5°	722.8	702.5	682.3	668.1	653.9	642.3	637.5	632.4	628.9	623.8	622.5
20°	694.8	677.1	659.1	643.6	628.5	615.6	611.7	608.3	604.8	602.7	601.0
22.5°	666.4	648.7	634.5	620.3	604.0	596.6	592.3	588.5	586.3	585.0	583.3
25°	640.1	624.6	607.8	594.9	582.0	576.4	573.8	571.7	570.0	567.8	567.4
27.5°	616.9	599.7	585.5	573.0	563.5	558.8	555.8	554.5	554.5	555.3	555.8
30°	590.2	574.7	563.5	553.2	544.6	540.3	539.8	539.8	541.5	542.0	542.8
32.5°	565.7	553.6	542.4	532.5	526.5	523.9	526.0	526.0	527.3	528.6	530.4
35°	542.0	530.8	522.2	513.6	508.0	509.3	510.1	511.0	513.1	515.7	517.4
37.5°	519.6	509.3	500.2	493.3	489.9	492.5	494.6	496.3	498.9	501.1	502.8
40°	495.1	487.7	479.1	473.1	474.0	475.3	477.0	479.1	481.3	482.6	484.3
42.5°	472.2	464.5	458.5	453.7	455.0	456.7	457.6	458.5	461.0	463.6	464.5
45°	449.0	443.0	436.9	433.9	434.8	435.6	436.5	437.8	440.0	441.7	442.1
47.5°	422.7	418.4	414.6	411.1	412.8	412.4	413.7	416.3	417.1	418.0	420.6
50°	397.8	393.9	389.2	388.3	388.3	388.3	388.7	392.2	392.2	393.9	395.6
52.5°	370.2	368.1	365.5	363.8	362.9	362.9	365.0	366.3	367.2	369.8	371.5
55°	343.1	340.5	337.9	336.6	335.8	336.6	340.1	340.9	343.1	344.4	345.7
57.5°	314.7	313.0	310.8	309.9	309.9	310.4	313.0	315.1	315.5	319.8	321.6
60°	286.7	283.7	282.0	282.0	281.1	285.0	284.1	288.4	289.3	291.9	294.9
62.5°	257.9	253.6	253.1	253.1	254.8	255.3	257.0	258.3	260.9	264.3	266.5
65°	226.4	224.3	227.3	226.9	226.0	228.6	228.6	230.7	233.3	236.3	241.1
67.5°	197.2	195.4	196.3	195.9	197.2	198.9	200.2	201.9	204.9	208.4	211.4
70°	167.5	168.7	166.6	168.3	169.6	170.0	170.9	173.5	176.9	179.1	182.5
72.5°	138.6	138.2	139.0	139.5	140.8	141.6	142.5	145.5	149.4	151.1	153.7
75°	111.1	110.6	111.9	111.9	114.1	114.9	115.8	117.1	120.5	123.1	125.3
77.5°	86.1	86.5	86.1	87.8	87.0	87.4	90.0	91.3	91.7	97.3	98.1
80°	61.1	62.0	62.4	62.9	63.3	62.4	65.4	66.7	66.7	69.7	71.9
82.5°	39.6	40.0	41.3	41.8	41.8	43.0	42.6	43.5	44.8	45.6	48.6
85°	22.0	23.2	23.7	23.2	23.7	22.8	24.1	24.5	25.0	25.0	25.0
87.5°	8.6	9.0	8.6	9.0	8.6	9.0	9.0	8.2	8.2	9.5	7.7
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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CATALOG NUMBER: S123DR-S775D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	888.5	888.5	888.5	888.5
2.5°	839.9	839.4	842.5	840.3
5°	790.8	792.1	787.8	787.8
7.5°	746.5	744.7	745.2	742.2
10°	706.4	703.8	703.0	703.4
12.5°	673.3	673.3	666.4	666.4
15°	648.7	640.6	639.7	642.3
17.5°	621.6	616.9	617.3	616.5
20°	601.0	598.4	597.9	594.9
22.5°	582.0	581.6	582.0	578.6
25°	566.9	569.1	567.4	567.4
27.5°	556.6	556.6	555.3	555.3
30°	544.6	544.1	545.0	545.0
32.5°	532.5	533.4	533.4	533.8
35°	520.0	520.5	521.7	520.9
37.5°	503.7	505.8	505.4	506.2
40°	484.7	486.0	485.6	485.6
42.5°	465.4	466.2	464.9	464.1
45°	443.8	443.0	444.3	442.5
47.5°	420.2	420.6	421.0	422.7
50°	396.5	399.1	399.1	398.6
52.5°	373.2	374.1	376.2	376.2
55°	349.1	350.0	350.8	351.3
57.5°	324.6	324.2	325.9	326.3
60°	298.3	298.3	301.8	303.1
62.5°	270.3	272.1	275.5	272.9
65°	243.2	246.7	246.2	248.0
67.5°	214.8	217.0	220.4	220.4
70°	186.0	188.1	189.8	191.1
72.5°	158.0	158.8	163.6	161.0
75°	128.3	131.3	133.9	132.6
77.5°	99.9	103.7	104.6	103.3
80°	74.9	74.5	77.1	76.6
82.5°	49.9	49.5	50.4	50.8
85°	26.7	28.0	26.3	25.8
87.5°	7.7	7.7	7.3	6.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)