

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: P242458

Luminaire Tested: **S123DR-S775D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242458
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-S775D927-X4F0-XX-UDD-A-W
Description: DEFINE 3 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: 2467.4 lumens
Efficiency: N/A
Efficacy: 93.5 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

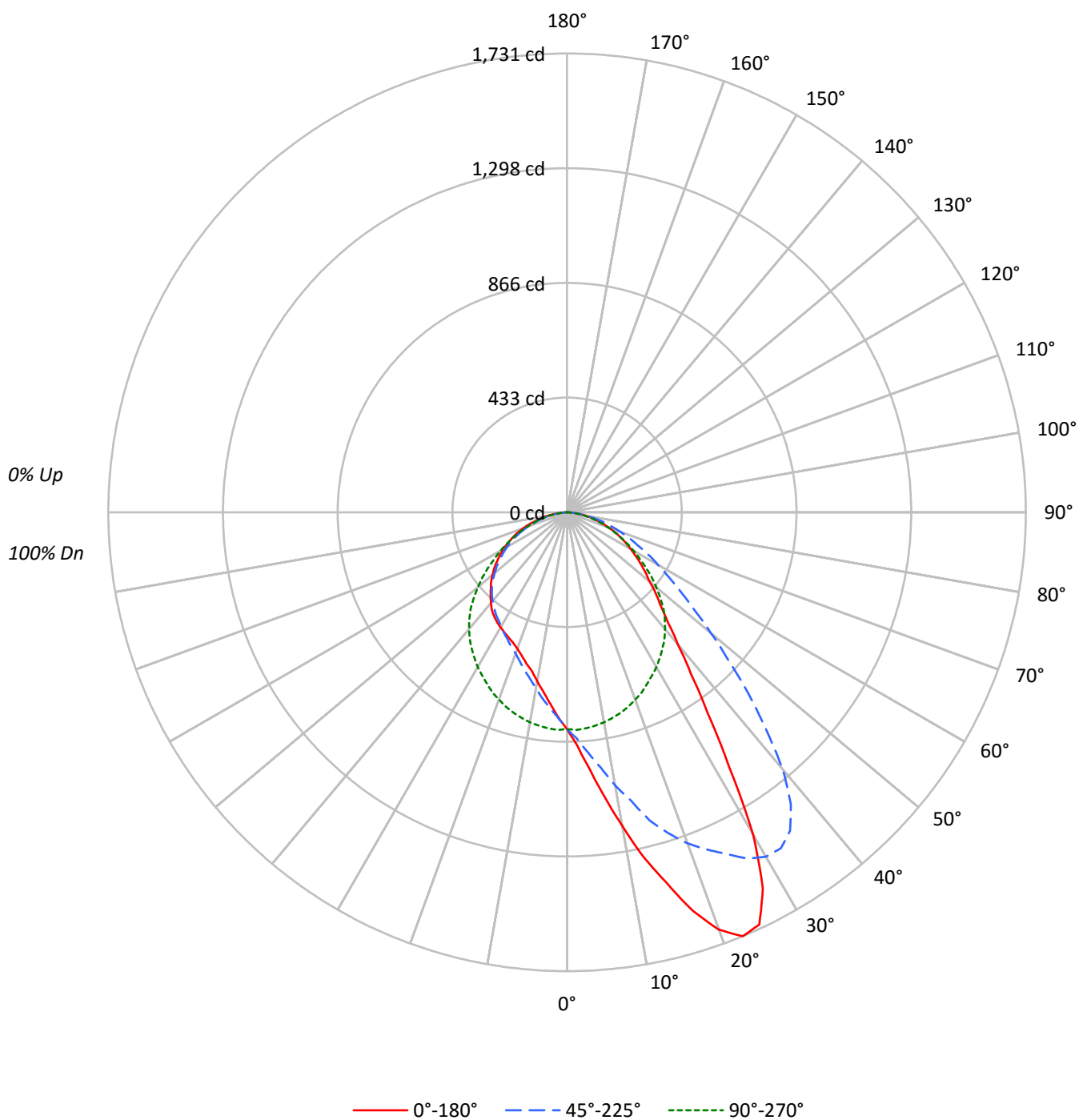
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		100
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85		85
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	74	72		72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62		62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	53		53
5	78	66	57	51	76	64	56	50	62	55	50	60	54	49	59	53	49	47		47
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	48	43	41		41
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	36		36
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	35	33		33
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	36	31	29		29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	33	28	27		27

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	9909	9909	9909
5°	11817	9952	8819
10°	14791	9901	7966
15°	18142	9821	7415
20°	21611	9698	7061
25°	22948	9545	6981
30°	19669	9435	7018
35°	13679	9278	7092
40°	10302	9094	7070
45°	8556	8820	6980
50°	7664	8261	6917
55°	7164	7658	6830
60°	6722	7028	6759
65°	6316	6407	6542
70°	5922	5699	6234
75°	5306	4988	5714
80°	4642	4090	4921
85°	3630	2976	3310

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.4	3.3
10°-20°	258.2	10.5
20°-30°	434.5	17.6
30°-40°	491.1	19.9
40°-50°	439.9	17.8
50°-60°	355.0	14.4
60°-70°	247.4	10.0
70°-80°	129.8	5.3
80°-90°	31.1	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°	773.1	31.3
0°-40°	1264.2	51.2
0°-60°	2059.1	83.5
0°-90°	2467.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2467.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	818	818	818	818	818	
5°	971	910	818	741	725	100
15°	1446	1203	783	617	591	417
25°	1716	1422	714	530	522	759
35°	924	1466	627	469	479	597
45°	499	966	514	401	407	394
55°	339	525	362	310	323	304
65°	220	294	223	210	228	219
75°	113	139	106	106	122	121
85°	26	30	21	21	24	32
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°	817.5	817.5	817.5	817.5	817.5	817.5	817.5	817.5	817.5	817.5	817.5
2.5°	880.1	879.3	877.3	878.9	875.7	871.4	871.0	867.0	855.5	854.7	851.6
5°	971.2	968.0	967.6	967.2	961.7	954.1	939.9	938.7	919.7	910.2	898.7
7.5°	1081.3	1080.1	1076.9	1073.4	1054.7	1045.6	1032.2	1014.7	992.6	971.2	957.7
10°	1201.7	1214.8	1198.5	1187.4	1177.1	1157.7	1135.2	1107.0	1078.9	1046.0	1021.1
12.5°	1330.8	1335.6	1335.6	1325.3	1307.8	1275.8	1231.4	1199.7	1174.4	1114.2	1092.8
15°	1445.7	1469.8	1454.4	1418.7	1419.5	1391.4	1339.1	1281.7	1251.2	1203.3	1137.9
17.5°	1575.6	1579.9	1575.2	1541.9	1525.7	1484.9	1437.8	1384.3	1326.9	1268.6	1200.9
20°	1675.4	1673.0	1659.2	1643.7	1609.6	1579.5	1526.9	1465.5	1386.3	1329.2	1253.6
22.5°	1730.8	1726.5	1721.7	1709.5	1682.5	1649.7	1603.7	1535.2	1460.7	1376.8	1286.5
25°	1715.8	1720.9	1721.7	1718.2	1708.3	1688.9	1651.6	1598.2	1522.9	1421.9	1330.8
27.5°	1599.4	1612.4	1629.1	1640.1	1658.0	1669.9	1658.0	1624.3	1562.5	1472.2	1360.1
30°	1405.3	1389.4	1428.6	1478.2	1511.8	1571.2	1604.5	1606.5	1575.2	1500.3	1391.8
32.5°	1135.9	1161.7	1173.6	1237.3	1320.9	1389.4	1463.9	1530.0	1545.5	1501.9	1410.4
35°	924.4	946.2	977.9	1009.6	1088.8	1156.9	1273.4	1374.8	1455.6	1466.3	1408.0
37.5°	768.4	781.1	800.5	834.1	888.4	972.8	1065.0	1196.9	1308.2	1386.7	1378.7
40°	651.1	654.3	676.9	701.1	743.0	809.6	890.8	1004.1	1144.3	1265.9	1316.6
42.5°	563.2	571.1	577.5	600.4	631.7	677.7	751.8	840.5	966.0	1110.6	1221.9
45°	499.1	507.0	512.9	528.4	552.1	585.8	638.5	724.0	821.9	966.4	1099.9
47.5°	454.7	453.9	459.1	471.3	488.4	515.3	554.1	611.1	705.0	825.8	965.6
50°	406.4	412.7	414.3	423.4	436.1	454.7	485.6	532.3	606.0	709.0	834.9
52.5°	372.3	373.1	378.3	384.2	394.9	408.4	434.1	468.2	522.0	606.0	719.3
55°	339.0	339.0	343.4	348.5	354.9	368.0	385.8	412.7	456.7	524.8	620.6
57.5°	308.1	309.7	313.7	314.9	320.4	329.5	345.0	366.4	400.0	455.1	534.3
60°	277.3	280.8	280.4	283.6	288.3	295.1	307.8	324.4	353.7	395.7	459.8
62.5°	250.3	249.1	249.1	253.1	257.8	264.2	271.3	285.2	308.9	345.0	397.3
65°	220.2	219.4	222.2	224.6	226.2	230.9	237.2	249.9	266.6	294.3	336.7
67.5°	194.1	191.7	193.7	194.5	197.2	201.2	207.5	215.5	228.9	252.3	286.4
70°	167.1	165.2	164.8	165.6	167.9	170.7	175.1	182.6	194.9	212.7	236.1
72.5°	139.4	138.2	138.2	140.2	141.0	142.6	145.4	152.1	161.2	173.5	194.9
75°	113.3	113.3	113.3	113.7	114.9	116.4	118.8	122.4	129.9	139.4	154.1
77.5°	89.5	89.9	89.1	88.7	90.7	91.5	91.9	95.9	100.2	107.3	118.8
80°	66.5	64.6	65.4	66.5	67.3	67.7	68.9	69.7	73.3	76.8	84.4
82.5°	45.2	43.6	43.6	45.5	45.5	45.9	47.1	48.3	49.1	52.3	55.5
85°	26.1	26.1	26.5	26.5	26.9	26.5	27.7	28.1	28.1	30.1	32.5
87.5°	11.9	11.1	11.5	11.9	11.5	11.9	12.3	12.7	13.1	13.5	13.9
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°	817.5	817.5	817.5	817.5	817.5	817.5	817.5	817.5	817.5	817.5	817.5
2.5°	849.2	846.0	842.8	837.3	832.5	825.8	823.8	821.5	814.3	808.0	803.2
5°	894.3	884.8	871.0	858.3	848.0	834.1	826.2	817.9	806.0	795.3	786.6
7.5°	937.5	920.9	901.5	880.5	860.3	840.9	825.4	811.6	796.1	781.1	769.6
10°	991.0	964.0	933.9	901.5	873.7	846.8	824.2	804.4	783.0	764.4	749.0
12.5°	1052.0	1008.8	964.4	923.3	889.2	849.2	820.7	794.1	769.2	745.8	728.0
15°	1097.5	1046.8	997.7	943.5	893.5	846.8	814.3	782.6	754.5	731.6	709.4
17.5°	1142.7	1087.2	1024.6	959.3	900.7	846.8	802.4	768.4	733.9	706.2	684.8
20°	1179.9	1114.6	1041.3	972.8	906.2	844.4	794.5	751.8	713.7	684.0	659.1
22.5°	1212.0	1132.8	1056.3	981.9	905.8	838.1	779.9	735.5	693.5	664.6	637.7
25°	1232.2	1140.7	1064.6	978.7	895.9	827.0	763.6	713.7	672.5	638.5	611.1
27.5°	1251.2	1139.5	1053.6	960.9	884.0	815.5	747.4	693.9	650.8	613.9	585.8
30°	1270.2	1141.5	1034.2	942.7	865.0	793.7	728.0	674.1	628.2	590.5	564.4
32.5°	1282.1	1140.3	1016.3	917.3	834.9	773.9	707.0	650.8	603.2	566.4	541.4
35°	1285.3	1133.6	995.3	880.5	802.1	740.7	684.8	627.0	577.5	543.0	514.5
37.5°	1278.5	1121.3	972.4	847.2	762.4	701.4	652.7	603.2	555.7	517.3	492.3
40°	1256.7	1109.4	944.6	811.6	721.3	663.0	623.0	574.7	528.0	491.9	469.0
42.5°	1215.2	1085.2	914.1	772.0	678.5	620.3	584.2	545.8	502.2	469.0	446.0
45°	1142.3	1048.0	883.6	732.3	636.5	576.3	543.8	514.5	474.5	441.6	421.8
47.5°	1049.2	997.7	839.7	690.8	592.5	534.3	500.2	476.1	444.8	418.3	398.8
50°	951.4	932.8	794.9	648.0	548.6	491.9	459.4	438.1	417.1	390.5	373.1
52.5°	838.5	857.5	742.6	603.6	503.8	448.4	418.3	402.4	383.8	363.2	348.5
55°	733.9	775.5	680.9	552.9	459.4	406.4	377.5	362.4	351.3	335.1	322.0
57.5°	632.5	685.6	616.7	501.8	415.9	369.5	341.0	324.0	316.9	307.8	297.1
60°	544.2	596.5	547.0	450.3	371.9	328.3	303.8	289.9	282.8	276.9	268.1
62.5°	465.4	518.5	478.9	398.1	328.7	289.1	268.5	255.1	249.9	247.5	240.4
65°	394.5	440.0	412.3	343.4	287.9	252.3	232.9	223.4	218.2	217.0	212.3
67.5°	333.1	368.3	347.0	295.1	249.9	217.4	200.4	192.1	187.7	187.3	183.4
70°	272.9	305.4	289.9	244.0	206.4	182.2	167.9	160.8	158.4	158.0	156.1
72.5°	226.2	246.4	234.9	198.4	171.5	150.1	140.6	133.1	130.3	131.1	129.9
75°	174.3	191.3	184.2	157.6	134.3	120.0	111.3	106.5	104.2	105.4	103.8
77.5°	133.1	145.0	137.8	117.6	102.6	91.9	85.2	82.0	79.6	79.6	78.8
80°	94.7	101.0	97.4	86.3	74.5	65.7	60.6	58.6	57.4	57.0	56.6
82.5°	60.6	65.7	61.4	54.7	47.5	43.2	40.8	38.0	37.2	37.6	37.2
85°	34.1	36.0	34.5	29.7	26.5	24.2	22.6	21.4	20.6	21.0	20.2
87.5°	14.7	15.1	13.9	12.3	11.5	10.3	10.3	9.5	8.7	8.7	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

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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	817.5	817.5	817.5	817.5	817.5	817.5	817.5	817.5	817.5	817.5	817.5
2.5°	800.5	797.7	793.7	787.8	783.0	775.5	775.5	776.7	776.7	776.3	775.5
5°	779.5	773.5	766.4	758.1	749.4	740.7	739.1	735.9	733.5	731.9	730.0
7.5°	758.1	748.2	738.3	726.8	716.9	708.6	702.6	697.5	694.3	690.8	688.0
10°	736.3	723.2	711.0	698.7	685.2	674.5	667.8	663.0	659.5	656.3	654.7
12.5°	710.6	695.1	681.2	669.8	654.7	643.6	637.3	635.7	631.3	623.8	619.9
15°	685.6	671.7	655.5	637.7	630.6	617.1	609.6	606.0	603.6	598.5	596.9
17.5°	665.0	646.4	627.8	614.7	601.6	590.9	586.6	581.8	578.7	573.9	572.7
20°	639.3	623.0	606.4	592.1	578.3	566.4	562.8	559.7	556.5	554.5	552.9
22.5°	613.1	596.9	583.8	570.7	555.7	549.0	545.0	541.4	539.5	538.3	536.7
25°	589.0	574.7	559.3	547.4	535.5	530.3	528.0	526.0	524.4	522.4	522.0
27.5°	567.6	551.7	538.7	527.2	518.5	514.1	511.3	510.1	510.1	510.9	511.3
30°	543.0	528.8	518.5	509.0	501.0	497.1	496.7	496.7	498.3	498.7	499.5
32.5°	520.4	509.4	499.1	489.9	484.4	482.0	484.0	484.0	485.2	486.4	488.0
35°	498.7	488.4	480.4	472.5	467.4	468.6	469.3	470.1	472.1	474.5	476.1
37.5°	478.1	468.6	460.2	453.9	450.7	453.1	455.1	456.7	459.1	461.0	462.6
40°	455.5	448.8	440.8	435.3	436.1	437.3	438.9	440.8	442.8	444.0	445.6
42.5°	434.5	427.4	421.8	417.5	418.7	420.2	421.0	421.8	424.2	426.6	427.4
45°	413.1	407.6	402.0	399.2	400.0	400.8	401.6	402.8	404.8	406.4	406.8
47.5°	388.9	385.0	381.4	378.3	379.8	379.4	380.6	383.0	383.8	384.6	387.0
50°	366.0	362.4	358.1	357.3	357.3	357.3	357.7	360.8	360.8	362.4	364.0
52.5°	340.6	338.6	336.3	334.7	333.9	333.9	335.9	337.1	337.9	340.2	341.8
55°	315.7	313.3	310.9	309.7	308.9	309.7	312.9	313.7	315.7	316.9	318.0
57.5°	289.5	287.9	286.0	285.2	285.2	285.6	287.9	289.9	290.3	294.3	295.9
60°	263.8	261.0	259.4	259.4	258.6	262.2	261.4	265.4	266.2	268.5	271.3
62.5°	237.2	233.3	232.9	232.9	234.5	234.9	236.5	237.6	240.0	243.2	245.2
65°	208.3	206.4	209.1	208.7	207.9	210.3	210.3	212.3	214.7	217.4	221.8
67.5°	181.4	179.8	180.6	180.2	181.4	183.0	184.2	185.8	188.5	191.7	194.5
70°	154.1	155.3	153.3	154.9	156.1	156.4	157.2	159.6	162.8	164.8	167.9
72.5°	127.5	127.1	127.9	128.3	129.5	130.3	131.1	133.9	137.4	139.0	141.4
75°	102.2	101.8	103.0	103.0	105.0	105.8	106.5	107.7	110.9	113.3	115.3
77.5°	79.2	79.6	79.2	80.8	80.0	80.4	82.8	84.0	84.4	89.5	90.3
80°	56.2	57.0	57.4	57.8	58.2	57.4	60.2	61.4	61.4	64.2	66.1
82.5°	36.4	36.8	38.0	38.4	38.4	39.6	39.2	40.0	41.2	42.0	44.8
85°	20.2	21.4	21.8	21.4	21.8	21.0	22.2	22.6	23.0	23.0	23.0
87.5°	7.9	8.3	7.9	8.3	7.9	8.3	8.3	7.5	7.5	8.7	7.1
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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CATALOG NUMBER: S123DR-S775D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	817.5	817.5	817.5	817.5
2.5°	772.7	772.3	775.1	773.1
5°	727.6	728.8	724.8	724.8
7.5°	686.8	685.2	685.6	682.8
10°	650.0	647.6	646.8	647.2
12.5°	619.5	619.5	613.1	613.1
15°	596.9	589.4	588.6	590.9
17.5°	571.9	567.6	568.0	567.2
20°	552.9	550.5	550.1	547.4
22.5°	535.5	535.1	535.5	532.3
25°	521.6	523.6	522.0	522.0
27.5°	512.1	512.1	510.9	510.9
30°	501.0	500.6	501.4	501.4
32.5°	489.9	490.7	490.7	491.1
35°	478.5	478.9	480.0	479.3
37.5°	463.4	465.4	465.0	465.8
40°	446.0	447.2	446.8	446.8
42.5°	428.2	428.9	427.8	427.0
45°	408.4	407.6	408.7	407.2
47.5°	386.6	387.0	387.4	388.9
50°	364.8	367.2	367.2	366.8
52.5°	343.4	344.2	346.2	346.2
55°	321.2	322.0	322.8	323.2
57.5°	298.6	298.2	299.8	300.2
60°	274.5	274.5	277.6	278.8
62.5°	248.7	250.3	253.5	251.1
65°	223.8	227.0	226.6	228.1
67.5°	197.6	199.6	202.8	202.8
70°	171.1	173.1	174.7	175.9
72.5°	145.4	146.2	150.5	148.1
75°	118.0	120.8	123.2	122.0
77.5°	91.9	95.5	96.2	95.1
80°	68.9	68.5	70.9	70.5
82.5°	45.9	45.5	46.3	46.7
85°	24.6	25.7	24.2	23.8
87.5°	7.1	7.1	6.7	6.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)