

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: P333937

Luminaire Tested: **S123DW-S775D930-4F0-1E-UDD-A**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333937  
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: S123DW-S775D930-4F0-1E-UDD-A  
Description: DEFINE 3 DIRECT LED LUMINAIRE, ASYMMETRIC DIFFUSER  
PENDANT/SURFACE/WALL MOUNT, 775 LUMENS PER FOOT  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2539.4 lumens  
Efficiency: N/A  
Efficacy: 96.6 lumens/watt  
Spacing Criteria (0/90/45): 1.37 / 1.23 / 1.5  
Luminous Opening: Rectangular (W 4' x L: 0.5' x H: 0')  
CIE Type: Direct

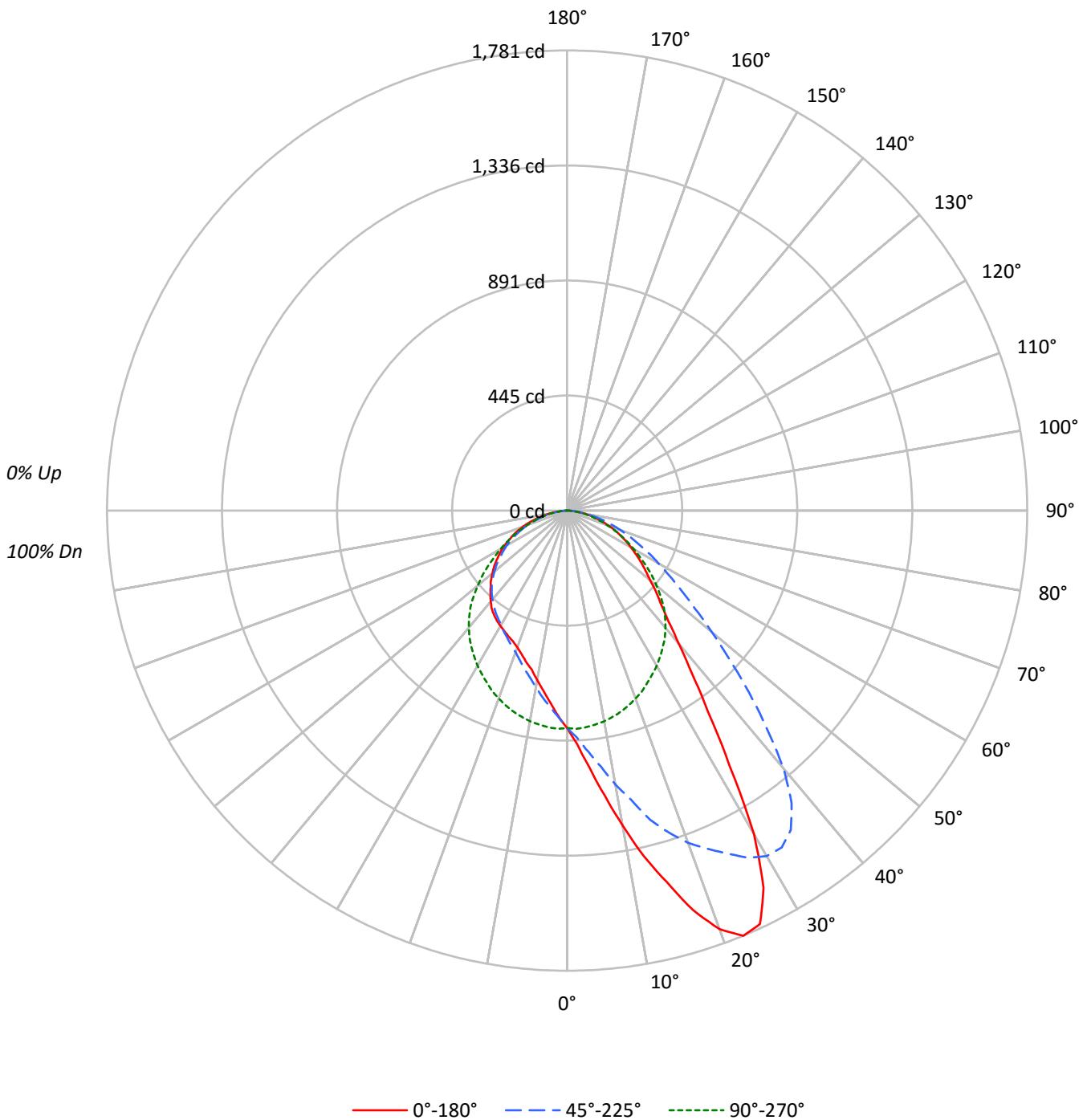
Input Watts (W): 26.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	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°	4528	4528	4528
5°	5400	4548	4030
10°	6759	4524	3640
15°	8290	4488	3389
20°	9876	4431	3226
25°	10487	4362	3191
30°	8988	4312	3207
35°	6251	4240	3240
40°	4708	4156	3230
45°	3909	4030	3189
50°	3502	3774	3161
55°	3274	3500	3121
60°	3071	3212	3089
65°	2886	2928	2990
70°	2707	2604	2848
75°	2425	2281	2612
80°	2123	1869	2250
85°	1661	1359	1513



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.7	3.3
10°-20°	265.8	10.5
20°-30°	447.2	17.6
30°-40°	505.4	19.9
40°-50°	452.7	17.8
50°-60°	365.4	14.4
60°-70°	254.6	10.0
70°-80°	133.6	5.3
80°-90°	32.0	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°	795.7	31.3
0°-40°	1301.1	51.2
0°-60°	2119.2	83.5
0°-90°	2539.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2539.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	841	841	841	841	841	
5°	1000	937	842	762	746	103
15°	1488	1238	806	635	608	429
25°	1766	1463	735	546	537	781
35°	951	1509	645	482	493	614
45°	514	995	530	412	419	405
55°	349	540	373	319	333	313
65°	227	303	230	216	235	226
75°	117	144	110	109	126	125
85°	27	31	22	22	24	33
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°	841.4	841.4	841.4	841.4	841.4	841.4	841.4	841.4	841.4	841.4	841.4
2.5°	905.8	904.9	902.9	904.5	901.3	896.8	896.4	892.3	880.5	879.7	876.4
5°	999.5	996.3	995.8	995.4	989.7	982.0	967.3	966.1	946.5	936.7	924.9
7.5°	1112.8	1111.6	1108.4	1104.7	1085.5	1076.2	1062.3	1044.4	1021.5	999.5	985.7
10°	1236.8	1250.2	1233.5	1222.1	1211.5	1191.5	1168.3	1139.3	1110.4	1076.6	1050.9
12.5°	1369.6	1374.5	1374.5	1363.9	1346.0	1313.0	1267.3	1234.7	1208.6	1146.7	1124.7
15°	1487.9	1512.7	1496.8	1460.1	1461.0	1432.0	1378.2	1319.1	1287.7	1238.4	1171.1
17.5°	1621.6	1626.0	1621.2	1586.9	1570.2	1528.2	1479.7	1424.7	1365.6	1305.6	1235.9
20°	1724.3	1721.8	1707.6	1691.7	1656.6	1625.6	1571.4	1508.2	1426.7	1368.0	1290.2
22.5°	1781.4	1776.9	1772.0	1759.3	1731.6	1697.8	1650.5	1580.0	1503.4	1416.9	1324.0
25°	1765.9	1771.2	1772.0	1768.3	1758.1	1738.1	1699.8	1644.8	1567.3	1463.4	1369.6
27.5°	1646.0	1659.5	1676.6	1688.0	1706.4	1718.6	1706.4	1671.7	1608.1	1515.2	1399.8
30°	1446.3	1430.0	1470.3	1521.3	1555.9	1617.1	1651.3	1653.4	1621.2	1544.1	1432.4
32.5°	1169.1	1195.6	1207.8	1273.4	1359.5	1430.0	1506.6	1574.7	1590.6	1545.7	1451.6
35°	951.4	973.8	1006.4	1039.1	1120.6	1190.7	1310.5	1414.9	1498.1	1509.1	1449.1
37.5°	790.8	803.9	823.8	858.5	914.3	1001.1	1096.1	1231.9	1346.4	1427.1	1419.0
40°	670.1	673.4	696.6	721.5	764.7	833.2	916.8	1033.3	1177.7	1302.8	1355.0
42.5°	579.7	587.8	594.3	618.0	650.2	697.5	773.7	865.0	994.2	1143.0	1257.5
45°	513.6	521.8	527.9	543.8	568.2	602.9	657.1	745.2	845.8	994.6	1132.0
47.5°	468.0	467.1	472.4	485.1	502.6	530.3	570.3	629.0	725.6	849.9	993.8
50°	418.2	424.8	426.4	435.8	448.8	468.0	499.8	547.9	623.7	729.7	859.3
52.5°	383.2	384.0	389.3	395.4	406.4	420.3	446.8	481.8	537.3	623.7	740.3
55°	348.9	348.9	353.4	358.7	365.2	378.7	397.0	424.8	470.0	540.1	638.8
57.5°	317.1	318.8	322.8	324.1	329.8	339.2	355.0	377.1	411.7	468.4	549.9
60°	285.3	289.0	288.6	291.9	296.8	303.7	316.7	333.9	364.0	407.2	473.3
62.5°	257.6	256.4	256.4	260.5	265.4	271.9	279.2	293.5	318.0	355.0	408.9
65°	226.6	225.8	228.7	231.1	232.8	237.7	244.2	257.2	274.3	302.9	346.5
67.5°	199.7	197.3	199.3	200.1	203.0	207.1	213.6	221.8	235.6	259.7	294.7
70°	172.0	170.0	169.6	170.4	172.8	175.7	180.2	187.9	200.6	218.9	242.9
72.5°	143.5	142.3	142.3	144.3	145.1	146.7	149.6	156.5	165.9	178.5	200.6
75°	116.6	116.6	116.6	117.0	118.2	119.8	122.3	126.0	133.7	143.5	158.6
77.5°	92.1	92.5	91.7	91.3	93.3	94.2	94.6	98.6	103.1	110.5	122.3
80°	68.5	66.4	67.3	68.5	69.3	69.7	70.9	71.7	75.4	79.1	86.8
82.5°	46.5	44.8	44.8	46.9	46.9	47.3	48.5	49.7	50.5	53.8	57.1
85°	26.9	26.9	27.3	27.3	27.7	27.3	28.5	28.9	28.9	31.0	33.4
87.5°	12.2	11.4	11.8	12.2	11.8	12.2	12.6	13.0	13.5	13.9	14.3
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	841.4	841.4	841.4	841.4	841.4	841.4	841.4	841.4	841.4	841.4	841.4
2.5°	874.0	870.7	867.4	861.7	856.8	849.9	847.9	845.4	838.1	831.6	826.7
5°	920.4	910.7	896.4	883.3	872.7	858.5	850.3	841.8	829.5	818.5	809.6
7.5°	964.9	947.7	927.8	906.2	885.4	865.4	849.5	835.2	819.3	803.9	792.0
10°	1019.9	992.2	961.2	927.8	899.2	871.5	848.3	827.9	805.9	786.7	770.8
12.5°	1082.7	1038.2	992.6	950.2	915.1	874.0	844.6	817.3	791.6	767.6	749.2
15°	1129.6	1077.4	1026.8	971.0	919.6	871.5	838.1	805.5	776.5	752.9	730.1
17.5°	1176.0	1119.0	1054.5	987.3	927.0	871.5	825.9	790.8	755.3	726.8	704.8
20°	1214.3	1147.1	1071.7	1001.1	932.7	869.1	817.7	773.7	734.6	704.0	678.3
22.5°	1247.4	1165.8	1087.2	1010.5	932.3	862.6	802.6	757.0	713.8	684.0	656.3
25°	1268.1	1174.0	1095.7	1007.3	922.1	851.1	785.9	734.6	692.2	657.1	629.0
27.5°	1287.7	1172.8	1084.3	988.9	909.8	839.3	769.2	714.2	669.7	631.8	602.9
30°	1307.3	1174.8	1064.3	970.2	890.3	816.9	749.2	693.8	646.5	607.8	580.9
32.5°	1319.5	1173.6	1046.0	944.1	859.3	796.5	727.6	669.7	620.8	582.9	557.2
35°	1322.8	1166.6	1024.4	906.2	825.5	762.3	704.8	645.3	594.3	558.9	529.5
37.5°	1315.8	1154.0	1000.7	871.9	784.7	721.9	671.8	620.8	571.9	532.4	506.7
40°	1293.4	1141.8	972.2	835.2	742.3	682.4	641.2	591.5	543.4	506.3	482.6
42.5°	1250.6	1116.9	940.8	794.5	698.3	638.4	601.3	561.7	516.9	482.6	459.0
45°	1175.6	1078.6	909.4	753.7	655.1	593.1	559.7	529.5	488.3	454.5	434.1
47.5°	1079.8	1026.8	864.2	710.9	609.8	549.9	514.8	490.0	457.8	430.5	410.5
50°	979.1	960.0	818.1	666.9	564.6	506.3	472.9	450.8	429.2	401.9	384.0
52.5°	863.0	882.5	764.3	621.2	518.5	461.4	430.5	414.2	395.0	373.8	358.7
55°	755.3	798.1	700.7	569.1	472.9	418.2	388.5	373.0	361.6	344.9	331.4
57.5°	651.0	705.6	634.7	516.5	428.0	380.3	351.0	333.4	326.1	316.7	305.7
60°	560.1	613.9	562.9	463.5	382.8	337.9	312.7	298.4	291.0	284.9	276.0
62.5°	479.0	533.6	492.8	409.7	338.3	297.6	276.4	262.5	257.2	254.8	247.4
65°	406.0	452.9	424.3	353.4	296.3	259.7	239.7	229.9	224.6	223.4	218.5
67.5°	342.8	379.1	357.1	303.7	257.2	223.8	206.3	197.7	193.2	192.8	188.7
70°	280.9	314.3	298.4	251.1	212.4	187.5	172.8	165.5	163.1	162.6	160.6
72.5°	232.8	253.5	241.7	204.2	176.5	154.5	144.7	137.0	134.1	134.9	133.7
75°	179.4	196.9	189.5	162.2	138.2	123.5	114.5	109.7	107.2	108.4	106.8
77.5°	137.0	149.2	141.9	121.1	105.6	94.6	87.6	84.4	81.9	81.9	81.1
80°	97.4	103.9	100.3	88.9	76.6	67.7	62.4	60.3	59.1	58.7	58.3
82.5°	62.4	67.7	63.2	56.3	48.9	44.4	42.0	39.1	38.3	38.7	38.3
85°	35.1	37.1	35.5	30.6	27.3	24.9	23.2	22.0	21.2	21.6	20.8
87.5°	15.1	15.5	14.3	12.6	11.8	10.6	10.6	9.8	9.0	9.0	8.6
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°	841.4	841.4	841.4	841.4	841.4	841.4	841.4	841.4	841.4	841.4	841.4
2.5°	823.8	821.0	816.9	810.8	805.9	798.1	798.1	799.4	799.4	799.0	798.1
5°	802.2	796.1	788.8	780.2	771.2	762.3	760.6	757.4	754.9	753.3	751.3
7.5°	780.2	770.0	759.8	748.0	737.8	729.3	723.1	717.8	714.6	710.9	708.1
10°	757.8	744.3	731.7	719.1	705.2	694.2	687.3	682.4	678.7	675.4	673.8
12.5°	731.3	715.4	701.1	689.3	673.8	662.4	655.9	654.3	649.8	642.0	637.9
15°	705.6	691.3	674.6	656.3	649.0	635.1	627.3	623.7	621.2	615.9	614.3
17.5°	684.4	665.3	646.1	632.6	619.2	608.2	603.7	598.8	595.6	590.7	589.4
20°	657.9	641.2	624.1	609.4	595.1	582.9	579.2	576.0	572.7	570.7	569.1
22.5°	631.0	614.3	600.9	587.4	571.9	565.0	560.9	557.2	555.2	554.0	552.3
25°	606.2	591.5	575.6	563.3	551.1	545.8	543.4	541.3	539.7	537.7	537.3
27.5°	584.1	567.8	554.4	542.6	533.6	529.1	526.3	525.0	525.0	525.8	526.3
30°	558.9	544.2	533.6	523.8	515.7	511.6	511.2	511.2	512.8	513.2	514.0
32.5°	535.6	524.2	513.6	504.2	498.5	496.1	498.1	498.1	499.4	500.6	502.2
35°	513.2	502.6	494.5	486.3	481.0	482.2	483.0	483.9	485.9	488.3	490.0
37.5°	492.0	482.2	473.7	467.1	463.9	466.3	468.4	470.0	472.4	474.5	476.1
40°	468.8	461.8	453.7	448.0	448.8	450.0	451.7	453.7	455.7	457.0	458.6
42.5°	447.2	439.8	434.1	429.6	430.9	432.5	433.3	434.1	436.6	439.0	439.8
45°	425.2	419.5	413.7	410.9	411.7	412.5	413.3	414.6	416.6	418.2	418.6
47.5°	400.3	396.2	392.6	389.3	390.9	390.5	391.7	394.2	395.0	395.8	398.3
50°	376.7	373.0	368.5	367.7	367.7	367.7	368.1	371.4	371.4	373.0	374.6
52.5°	350.6	348.5	346.1	344.4	343.6	343.6	345.7	346.9	347.7	350.2	351.8
55°	324.9	322.4	320.0	318.8	318.0	318.8	322.0	322.8	324.9	326.1	327.3
57.5°	298.0	296.3	294.3	293.5	293.5	293.9	296.3	298.4	298.8	302.9	304.5
60°	271.5	268.6	267.0	267.0	266.2	269.9	269.0	273.1	273.9	276.4	279.2
62.5°	244.2	240.1	239.7	239.7	241.3	241.7	243.4	244.6	247.0	250.3	252.3
65°	214.4	212.4	215.2	214.8	214.0	216.5	216.5	218.5	220.9	223.8	228.3
67.5°	186.7	185.1	185.9	185.5	186.7	188.3	189.5	191.2	194.0	197.3	200.1
70°	158.6	159.8	157.8	159.4	160.6	161.0	161.8	164.3	167.5	169.6	172.8
72.5°	131.3	130.9	131.7	132.1	133.3	134.1	134.9	137.8	141.4	143.1	145.5
75°	105.2	104.8	106.0	106.0	108.0	108.8	109.7	110.9	114.1	116.6	118.6
77.5°	81.5	81.9	81.5	83.2	82.3	82.7	85.2	86.4	86.8	92.1	92.9
80°	57.9	58.7	59.1	59.5	59.9	59.1	62.0	63.2	63.2	66.0	68.1
82.5°	37.5	37.9	39.1	39.5	39.5	40.8	40.4	41.2	42.4	43.2	46.1
85°	20.8	22.0	22.4	22.0	22.4	21.6	22.8	23.2	23.6	23.6	23.6
87.5°	8.2	8.6	8.2	8.6	8.2	8.6	8.6	7.7	7.7	9.0	7.3
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: P333937

CATALOG NUMBER: S123DW-S775D930-4F0-1E-UDD-A

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	841.4	841.4	841.4	841.4
2.5°	795.3	794.9	797.7	795.7
5°	748.8	750.0	746.0	746.0
7.5°	706.8	705.2	705.6	702.8
10°	668.9	666.5	665.7	666.1
12.5°	637.5	637.5	631.0	631.0
15°	614.3	606.6	605.7	608.2
17.5°	588.6	584.1	584.5	583.7
20°	569.1	566.6	566.2	563.3
22.5°	551.1	550.7	551.1	547.9
25°	536.9	538.9	537.3	537.3
27.5°	527.1	527.1	525.8	525.8
30°	515.7	515.2	516.1	516.1
32.5°	504.2	505.1	505.1	505.5
35°	492.4	492.8	494.1	493.2
37.5°	476.9	479.0	478.6	479.4
40°	459.0	460.2	459.8	459.8
42.5°	440.7	441.5	440.2	439.4
45°	420.3	419.5	420.7	419.0
47.5°	397.8	398.3	398.7	400.3
50°	375.4	377.9	377.9	377.5
52.5°	353.4	354.2	356.3	356.3
55°	330.6	331.4	332.2	332.6
57.5°	307.4	306.9	308.6	309.0
60°	282.5	282.5	285.8	287.0
62.5°	256.0	257.6	260.9	258.4
65°	230.3	233.6	233.2	234.8
67.5°	203.4	205.4	208.7	208.7
70°	176.1	178.1	179.8	181.0
72.5°	149.6	150.4	154.9	152.5
75°	121.5	124.3	126.8	125.6
77.5°	94.6	98.2	99.1	97.8
80°	70.9	70.5	73.0	72.6
82.5°	47.3	46.9	47.7	48.1
85°	25.3	26.5	24.9	24.5
87.5°	7.3	7.3	6.9	6.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)