

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: P332173-927

Luminaire Tested: **S123DIW-S775D1320U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332173-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S775D1320U927-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1320 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

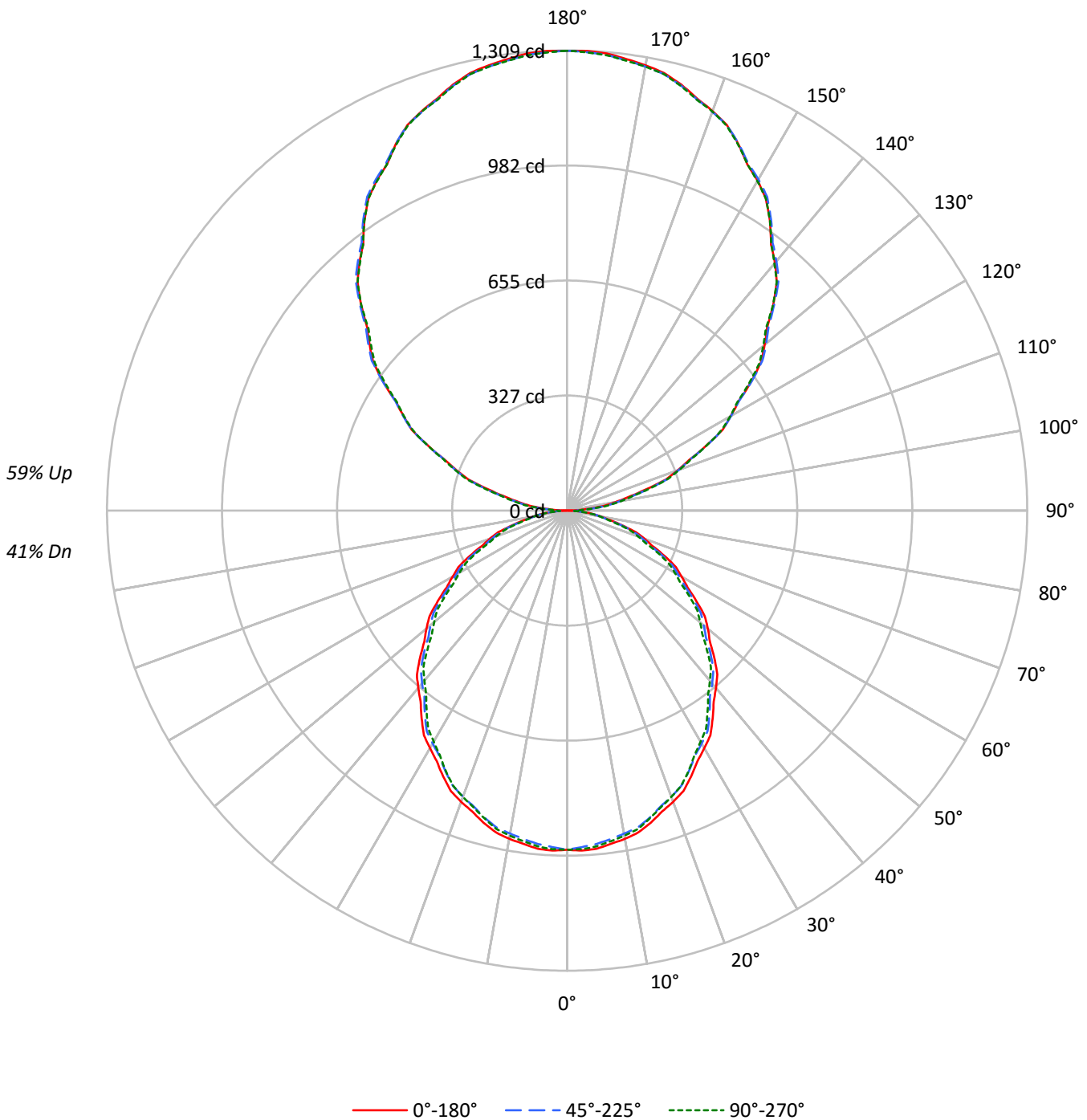
Lumens per Lamp: N/A  
Luminaire Lumens: 6137.9 lumens  
Efficiency: N/A  
Efficacy: 100.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 61.4  
Input Voltage (V): 120  
Input Current (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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48	41
1	96	91	88	84	87	83	80	77	68	66	64	55	53	52	42	41	40	34
2	87	80	74	69	79	73	68	63	60	56	53	48	45	43	37	35	34	29
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	33	31	29	24
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	29	27	25	21
5	67	55	47	41	60	51	44	38	42	37	33	34	30	27	26	24	22	18
6	61	49	41	36	56	45	38	33	38	32	28	31	27	24	24	21	19	16
7	57	44	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17	14
8	52	40	33	27	48	37	30	26	31	26	22	25	21	19	20	17	15	13
9	49	37	29	24	44	34	27	23	28	23	20	23	19	17	18	16	14	11
10	46	34	27	22	42	31	25	20	26	21	18	22	18	15	17	14	12	10

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10384	10384	10384
5°	10432	10289	10361
10°	10363	10200	10263
15°	10242	10085	10104
20°	10100	9919	9929
25°	9911	9723	9704
30°	9701	9506	9434
35°	9483	9276	9155
40°	9254	9021	8882
45°	9003	8788	8573
50°	8751	8500	8264
55°	8422	8203	7955
60°	8088	7858	7608
65°	7796	7480	7246
70°	7361	7046	6735
75°	6729	6488	6209
80°	6069	5808	5759
85°	5323	5125	4915



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.9	1.5
10°-20°	256.6	4.2
20°-30°	379.0	6.2
30°-40°	442.7	7.2
40°-50°	445.1	7.3
50°-60°	391.0	6.4
60°-70°	291.3	4.7
70°-80°	166.0	2.7
80°-90°	51.5	0.8
90°-100°	85.2	1.4
100°-110°	255.0	4.2
110°-120°	433.8	7.1
120°-130°	570.5	9.3
130°-140°	641.3	10.4
140°-150°	630.4	10.3
150°-160°	530.7	8.6
160°-170°	353.3	5.8
170°-180°	123.7	2.0
0°-30°	726.5	11.8
0°-40°	1169.2	19.0
0°-60°	2005.3	32.7
0°-90°	2514.1	41.0
90°-120°	774.0	12.6
90°-150°	2616.2	42.6
90°-180°	3624.0	59.0
0°-180°	6137.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	965	965	965	965	965	
5°	966	961	952	960	959	91
15°	919	915	905	911	907	259
25°	834	829	819	819	817	384
35°	722	716	706	701	697	451
45°	591	588	577	568	563	456
55°	449	447	437	428	424	402
65°	306	302	294	287	284	302
75°	162	158	156	152	149	173
85°	43	42	42	40	40	47
90°	1	11	25	29	31	6
95°	61	68	76	80	80	68
105°	231	234	242	243	244	248
115°	437	439	438	439	438	432
125°	639	642	640	636	632	570
135°	829	835	834	830	828	639
145°	1006	1008	1011	1010	1006	628
155°	1152	1152	1153	1156	1150	530
165°	1254	1252	1251	1257	1250	354
175°	1305	1301	1301	1306	1300	124
180°	1308	1308	1308	1308	1308	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7
2.5°	968.0	967.4	966.9	966.2	965.7	964.6	962.9	961.3	959.6	958.1	959.5
5°	965.5	964.6	963.7	962.7	961.8	960.4	958.3	956.3	954.3	952.2	954.1
7.5°	956.1	955.1	954.2	953.3	952.4	950.9	948.7	946.7	944.5	942.5	944.1
10°	948.1	947.1	946.3	945.3	944.4	942.8	940.3	937.9	935.6	933.2	934.9
12.5°	937.5	936.7	936.0	935.2	934.4	932.9	930.7	928.4	926.1	923.8	925.1
15°	919.1	918.3	917.6	916.9	916.1	914.6	912.1	909.7	907.4	905.0	906.4
17.5°	897.6	896.7	895.7	894.8	893.8	892.2	889.8	887.3	884.9	882.6	883.6
20°	881.7	880.6	879.6	878.5	877.3	875.5	873.1	870.8	868.4	865.9	866.7
22.5°	863.8	862.7	861.6	860.5	859.4	857.6	855.2	852.9	850.5	848.0	848.7
25°	834.5	833.4	832.3	831.2	830.0	828.3	825.9	823.5	821.1	818.7	818.9
27.5°	803.1	802.0	801.0	799.9	798.8	797.0	794.4	791.9	789.3	786.6	786.8
30°	780.5	779.6	778.7	777.8	776.8	775.1	772.5	769.9	767.4	764.8	764.8
32.5°	758.0	756.8	755.5	754.3	753.1	751.5	749.5	747.5	745.5	743.5	742.5
35°	721.7	720.6	719.5	718.4	717.2	715.5	713.0	710.7	708.3	705.9	704.8
37.5°	684.4	683.1	681.7	680.2	678.9	677.0	674.5	672.1	669.6	667.3	665.9
40°	658.6	657.5	656.4	655.3	654.2	652.4	649.7	647.2	644.6	642.0	640.6
42.5°	632.7	631.4	630.2	629.0	627.7	625.8	623.2	620.6	618.1	615.4	614.0
45°	591.4	590.7	589.9	589.2	588.4	586.9	584.5	582.1	579.7	577.3	575.1
47.5°	550.4	549.4	548.3	547.2	546.1	544.5	542.2	540.0	537.7	535.5	533.3
50°	522.6	521.7	520.7	519.8	518.9	517.2	514.8	512.5	510.0	507.6	505.6
52.5°	493.4	492.7	492.1	491.5	490.8	489.3	486.7	484.2	481.6	479.1	477.4
55°	448.8	448.5	448.4	448.2	448.0	446.7	444.3	442.0	439.5	437.1	435.1
57.5°	406.3	405.7	405.0	404.4	403.8	402.5	400.6	398.6	396.7	394.8	393.0
60°	375.7	375.6	375.4	375.2	375.0	373.8	371.6	369.4	367.2	365.0	363.3
62.5°	348.6	348.1	347.6	347.1	346.7	345.3	343.1	340.9	338.7	336.4	334.8
65°	306.1	305.1	304.2	303.3	302.4	301.0	299.1	297.3	295.5	293.7	292.2
67.5°	261.1	260.3	259.5	258.6	257.9	256.7	255.4	254.0	252.5	251.2	249.9
70°	233.9	232.8	231.7	230.6	229.5	228.4	227.3	226.2	225.1	223.9	222.7
72.5°	205.4	204.5	203.7	203.0	202.2	201.1	199.9	198.6	197.3	196.1	195.0
75°	161.8	161.0	160.3	159.5	158.8	158.1	157.6	157.0	156.5	156.0	155.0
77.5°	123.1	122.7	122.3	121.9	121.4	121.0	120.3	119.6	119.0	118.3	117.6
80°	97.9	97.4	96.8	96.3	95.7	95.2	94.8	94.5	94.1	93.7	93.6
82.5°	73.4	73.2	73.1	73.0	72.9	72.8	72.7	72.6	72.6	72.5	72.2
85°	43.1	42.8	42.4	42.1	41.7	41.5	41.5	41.5	41.5	41.5	41.1
87.5°	17.4	17.5	17.5	17.5	17.5	17.7	18.2	18.6	19.1	19.6	19.6
90°	1.0	3.3	5.6	7.8	10.1	12.8	15.8	18.7	21.7	24.6	25.6
92.5°	24.9	26.4	28.0	29.5	31.1	32.7	34.4	36.0	37.8	39.5	40.2
95°	60.6	62.2	63.8	65.4	67.0	68.8	70.6	72.4	74.2	76.0	76.9
97.5°	107.7	108.8	110.0	111.2	112.4	113.7	115.0	116.3	117.6	119.0	120.0
100°	139.7	141.1	142.4	143.9	145.2	146.5	147.6	148.8	149.9	151.1	151.7
102.5°	176.7	177.5	178.4	179.2	180.0	181.2	182.7	184.2	185.7	187.2	187.9
105°	231.2	231.6	232.1	232.5	233.0	234.2	236.3	238.4	240.4	242.5	242.5
107.5°	294.5	294.8	295.0	295.3	295.6	296.1	296.9	297.8	298.6	299.4	300.2
110°	333.9	334.4	334.9	335.3	335.7	336.2	336.7	337.2	337.5	338.0	339.0



TEST NUMBER: P332173-927

CATALOG NUMBER: S123DIW-S775D1320U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	375.0	375.3	375.6	375.8	376.1	376.3	376.4	376.4	376.6	376.7	377.8
115°	436.7	437.4	438.0	438.7	439.4	439.5	439.0	438.6	438.2	437.7	437.9
117.5°	498.8	499.2	499.6	500.1	500.6	500.5	499.9	499.3	498.7	498.1	498.0
120°	537.3	538.7	540.1	541.5	542.8	543.0	541.8	540.7	539.6	538.4	538.1
122.5°	577.7	578.6	579.6	580.7	581.6	581.9	581.2	580.7	580.0	579.5	578.8
125°	639.1	639.8	640.4	641.1	641.8	641.9	641.4	641.0	640.6	640.1	639.2
127.5°	695.8	697.3	698.7	700.1	701.6	702.1	701.6	701.1	700.6	700.1	698.8
130°	733.6	735.4	737.3	739.1	740.9	741.5	740.8	740.1	739.4	738.7	737.8
132.5°	771.4	773.2	775.1	776.9	778.7	779.3	778.9	778.4	777.8	777.4	776.3
135°	829.2	830.5	831.9	833.2	834.6	835.2	835.0	834.7	834.5	834.2	833.4
137.5°	882.6	883.7	884.9	886.0	887.2	888.0	888.6	889.2	889.8	890.4	889.4
140°	919.6	920.7	921.9	923.0	924.2	924.8	925.0	925.3	925.5	925.7	925.5
142.5°	953.2	954.4	955.5	956.7	957.8	958.6	959.0	959.4	959.8	960.3	960.0
145°	1005.8	1006.3	1006.8	1007.3	1007.7	1008.3	1008.9	1009.6	1010.3	1011.0	1010.7
147.5°	1051.9	1052.7	1053.5	1054.4	1055.2	1055.9	1056.5	1057.2	1057.8	1058.4	1058.4
150°	1083.9	1084.4	1084.9	1085.3	1085.8	1086.2	1086.7	1087.1	1087.6	1088.1	1088.1
152.5°	1110.2	1110.9	1111.5	1112.1	1112.8	1113.3	1113.6	1113.8	1114.1	1114.4	1114.8
155°	1151.8	1151.8	1151.8	1151.8	1151.8	1151.9	1152.1	1152.3	1152.5	1152.8	1153.7
157.5°	1187.1	1186.8	1186.5	1186.3	1186.0	1186.0	1186.1	1186.3	1186.5	1186.7	1187.6
160°	1209.3	1208.9	1208.4	1207.9	1207.4	1207.2	1207.2	1207.2	1207.2	1207.2	1208.4
162.5°	1229.0	1228.4	1227.7	1227.1	1226.5	1226.2	1226.5	1226.6	1226.8	1226.9	1228.1
165°	1254.5	1253.8	1253.2	1252.4	1251.8	1251.4	1251.4	1251.4	1251.4	1251.4	1252.8
167.5°	1274.9	1273.9	1273.0	1272.1	1271.2	1270.8	1271.0	1271.2	1271.4	1271.5	1273.0
170°	1286.3	1285.5	1284.5	1283.7	1282.7	1282.2	1282.2	1282.2	1282.2	1282.2	1283.8
172.5°	1295.4	1294.5	1293.6	1292.7	1291.7	1291.3	1291.3	1291.3	1291.3	1291.3	1292.7
175°	1304.9	1303.9	1303.1	1302.1	1301.2	1300.8	1300.8	1300.8	1300.8	1300.8	1302.1
177.5°	1308.8	1308.1	1307.3	1306.5	1305.8	1305.4	1305.4	1305.4	1305.4	1305.4	1306.5
180°	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0



TEST NUMBER: P332173-927

CATALOG NUMBER: S123DIW-S775D1320U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7
2.5°	961.0	962.5	963.9	964.6	964.5	964.3	964.2	964.0
5°	955.9	957.7	959.6	960.4	960.0	959.6	959.3	958.9
7.5°	945.8	947.5	949.1	949.8	949.6	949.4	949.1	949.0
10°	936.5	938.1	939.8	940.5	940.1	939.7	939.4	939.0
12.5°	926.3	927.5	928.8	929.2	929.0	928.8	928.6	928.4
15°	907.9	909.3	910.9	911.0	909.9	908.8	907.8	906.7
17.5°	884.6	885.7	886.7	887.0	886.6	886.2	885.8	885.4
20°	867.4	868.2	868.9	869.0	868.5	867.9	867.4	866.8
22.5°	849.2	849.9	850.4	850.3	849.7	849.0	848.3	847.6
25°	819.0	819.3	819.4	819.3	818.7	818.2	817.6	817.1
27.5°	787.0	787.1	787.3	787.0	786.3	785.6	784.9	784.2
30°	764.8	764.8	764.8	764.1	762.9	761.5	760.3	759.0
32.5°	741.5	740.5	739.4	738.6	737.8	737.1	736.4	735.8
35°	703.7	702.6	701.5	700.4	699.5	698.6	697.7	696.7
37.5°	664.6	663.2	661.9	661.0	660.4	659.8	659.2	658.6
40°	639.1	637.6	636.1	635.0	634.3	633.5	632.8	632.1
42.5°	612.5	611.0	609.6	608.5	607.8	607.0	606.3	605.5
45°	572.9	570.7	568.5	566.9	566.0	565.1	564.1	563.2
47.5°	531.2	529.0	526.8	525.3	524.5	523.7	522.9	522.0
50°	503.6	501.5	499.6	498.0	496.9	495.7	494.6	493.5
52.5°	475.6	473.9	472.1	470.8	469.7	468.6	467.5	466.4
55°	433.1	431.0	429.0	427.5	426.6	425.7	424.8	423.9
57.5°	391.2	389.4	387.6	386.2	385.1	384.0	382.9	381.9
60°	361.6	360.0	358.3	357.0	356.1	355.2	354.3	353.4
62.5°	333.1	331.4	329.8	328.7	328.0	327.4	326.8	326.1
65°	290.7	289.2	287.7	286.7	286.1	285.6	285.0	284.5
67.5°	248.6	247.3	246.0	244.9	244.2	243.4	242.6	241.9
70°	221.4	220.1	218.8	217.7	216.7	215.9	214.9	214.0
72.5°	193.8	192.7	191.5	190.7	190.2	189.7	189.3	188.8
75°	154.1	153.2	152.3	151.5	151.0	150.4	149.9	149.3
77.5°	117.0	116.4	115.7	115.5	115.5	115.5	115.5	115.5
80°	93.4	93.2	93.0	92.9	92.9	92.9	92.9	92.9
82.5°	71.9	71.5	71.1	70.9	70.8	70.7	70.5	70.3
85°	40.7	40.4	40.0	39.8	39.8	39.8	39.8	39.8
87.5°	19.6	19.6	19.6	19.7	19.8	19.9	20.0	20.1
90°	26.5	27.4	28.3	29.0	29.5	29.9	30.3	30.8
92.5°	40.9	41.7	42.4	42.6	42.3	42.1	41.7	41.5
95°	77.9	78.7	79.7	80.2	80.2	80.2	80.2	80.2
97.5°	121.0	122.2	123.2	123.7	123.6	123.5	123.4	123.3
100°	152.4	153.0	153.8	154.3	154.8	155.3	155.7	156.1
102.5°	188.5	189.3	190.0	190.2	190.1	190.0	190.0	189.9
105°	242.5	242.5	242.5	242.7	243.2	243.6	244.1	244.5
107.5°	300.9	301.6	302.3	302.5	302.3	302.0	301.7	301.4
110°	339.8	340.8	341.7	341.9	341.4	341.0	340.6	340.1





TEST NUMBER: P332173-927

CATALOG NUMBER: S123DIW-S775D1320U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	378.8	379.9	381.0	381.5	381.4	381.4	381.3	381.2
115°	438.2	438.4	438.6	438.6	438.4	438.2	437.9	437.7
117.5°	498.0	498.0	497.9	497.6	496.9	496.3	495.7	495.0
120°	537.9	537.7	537.5	537.1	536.7	536.2	535.8	535.3
122.5°	578.3	577.7	577.1	576.5	575.8	575.2	574.6	573.9
125°	638.3	637.4	636.4	635.6	634.6	633.7	632.8	631.8
127.5°	697.5	696.2	695.0	693.8	692.8	691.7	690.7	689.6
130°	736.9	736.0	735.1	733.8	732.2	730.6	729.0	727.5
132.5°	775.2	774.0	773.0	771.8	770.6	769.4	768.1	766.9
135°	832.4	831.6	830.6	830.0	829.5	829.0	828.5	828.1
137.5°	888.4	887.5	886.5	885.7	884.8	883.9	883.0	882.2
140°	925.3	925.0	924.8	923.9	922.3	920.7	919.1	917.5
142.5°	959.8	959.6	959.3	958.6	957.4	956.2	954.9	953.7
145°	1010.5	1010.3	1010.1	1009.6	1008.6	1007.7	1006.8	1005.8
147.5°	1058.4	1058.4	1058.4	1057.8	1056.5	1055.0	1053.7	1052.3
150°	1088.1	1088.1	1088.1	1087.3	1086.0	1084.7	1083.2	1081.9
152.5°	1115.1	1115.5	1115.8	1115.4	1114.2	1113.0	1111.8	1110.6
155°	1154.6	1155.6	1156.4	1156.1	1154.5	1152.9	1151.3	1149.7
157.5°	1188.6	1189.5	1190.6	1190.3	1189.1	1187.8	1186.5	1185.3
160°	1209.5	1210.7	1211.8	1212.0	1211.0	1210.1	1209.2	1208.2
162.5°	1229.2	1230.4	1231.5	1231.4	1229.9	1228.4	1227.0	1225.5
165°	1254.2	1255.5	1256.9	1256.8	1255.2	1253.6	1252.0	1250.4
167.5°	1274.4	1275.8	1277.2	1277.2	1275.8	1274.4	1273.0	1271.5
170°	1285.5	1287.1	1288.6	1288.6	1287.1	1285.5	1283.8	1282.2
172.5°	1294.1	1295.5	1297.0	1296.9	1295.3	1293.6	1292.0	1290.5
175°	1303.5	1304.9	1306.2	1306.1	1304.5	1302.9	1301.3	1299.7
177.5°	1307.7	1308.8	1309.9	1309.8	1308.4	1307.2	1305.9	1304.6
180°	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0

(END OF REPORT)