

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: P332155-935

Luminaire Tested: **S123DIW-S775D460U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332155-935
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-S775D460U935-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4105.9 lumens
Efficiency: N/A
Efficacy: 108.9 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: Semi-Direct

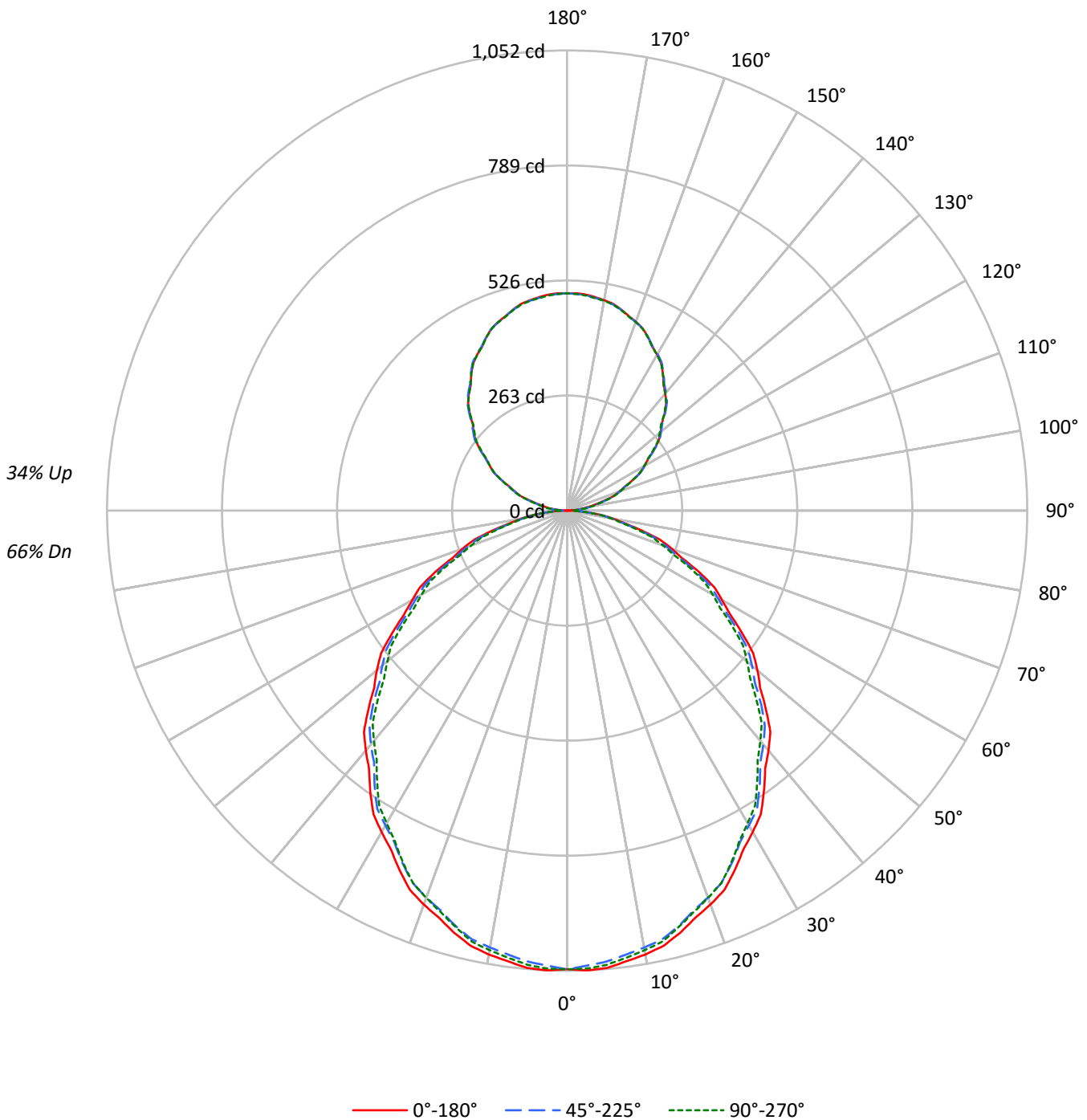
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332155-935

CATALOG NUMBER: S123DIW-S775D460U935-4F0-1E-UDD-F1

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	111	111	111	111	105	105	105	105	92	92	92	81	81	81	71	71	71	66
1	101	97	93	89	95	91	88	85	81	78	76	72	70	68	63	61	60	56
2	92	85	78	73	87	80	74	69	71	67	63	63	59	57	55	53	51	47
3	84	74	67	61	79	70	64	58	63	57	53	56	51	48	49	46	43	40
4	77	66	58	51	72	62	55	49	56	50	45	50	45	41	44	40	37	34
5	71	59	50	44	66	56	48	42	50	44	39	44	39	36	39	35	32	29
6	65	53	44	38	61	50	43	37	45	39	34	40	35	31	36	32	28	26
7	60	48	40	34	57	45	38	33	41	35	30	37	32	28	33	28	25	23
8	56	43	36	30	53	41	34	29	37	31	27	34	28	25	30	26	23	20
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	28	24	20	18
10	49	37	29	24	46	35	28	23	32	26	22	29	24	20	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11286	11286	11286
5°	11339	11182	11261
10°	11262	11086	11154
15°	11131	10961	10981
20°	10977	10781	10791
25°	10772	10568	10546
30°	10544	10331	10253
35°	10307	10081	9950
40°	10058	9805	9653
45°	9785	9552	9319
50°	9512	9239	8982
55°	9154	8916	8646
60°	8792	8540	8269
65°	8474	8130	7875
70°	8003	7660	7320
75°	7311	7049	6750
80°	6595	6316	6261
85°	5780	5570	5348



TEST NUMBER: P332155-935

CATALOG NUMBER: S123DIW-S775D460U935-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.8	2.4
10°-20°	278.9	6.8
20°-30°	411.9	10.0
30°-40°	481.2	11.7
40°-50°	483.8	11.8
50°-60°	425.0	10.3
60°-70°	316.6	7.7
70°-80°	180.4	4.4
80°-90°	53.3	1.3
90°-100°	32.4	0.8
100°-110°	96.8	2.4
110°-120°	164.7	4.0
120°-130°	216.7	5.3
130°-140°	243.5	5.9
140°-150°	239.4	5.8
150°-160°	201.5	4.9
160°-170°	134.2	3.3
170°-180°	47.0	1.1
0°-30°	789.6	19.2
0°-40°	1270.8	30.9
0°-60°	2179.5	53.1
0°-90°	2729.7	66.5
90°-120°	293.9	7.2
90°-150°	993.5	24.2
90°-180°	1376.0	33.5
0°-180°	4105.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1048	1048	1048	1048	1048	
5°	1049	1045	1035	1043	1042	99
15°	999	995	984	990	985	281
25°	907	901	890	890	888	418
35°	784	779	767	762	757	490
45°	643	639	628	617	612	496
55°	488	486	475	466	461	437
65°	333	328	319	312	309	328
75°	176	172	170	165	162	188
85°	47	45	45	43	43	51
90°	0	4	9	11	12	4
95°	23	26	29	30	30	26
105°	88	89	92	92	93	94
115°	166	167	166	167	166	164
125°	243	244	243	242	240	216
135°	315	317	317	315	314	243
145°	382	383	384	384	382	239
155°	437	437	438	439	437	201
165°	476	475	475	477	475	134
175°	496	494	494	496	494	47
180°	497	497	497	497	497	



TEST NUMBER: P332155-935

CATALOG NUMBER: S123DIW-S775D460U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5
2.5°	1052.1	1051.5	1050.9	1050.2	1049.6	1048.4	1046.5	1044.8	1043.0	1041.3	1042.8
5°	1049.4	1048.4	1047.4	1046.4	1045.3	1043.8	1041.6	1039.4	1037.2	1034.9	1037.0
7.5°	1039.1	1038.1	1037.1	1036.1	1035.1	1033.5	1031.1	1028.9	1026.6	1024.3	1026.1
10°	1030.4	1029.4	1028.5	1027.4	1026.5	1024.7	1022.0	1019.4	1016.8	1014.3	1016.1
12.5°	1018.9	1018.0	1017.3	1016.4	1015.5	1013.9	1011.5	1009.0	1006.6	1004.1	1005.5
15°	998.9	998.1	997.3	996.5	995.7	994.0	991.4	988.8	986.2	983.6	985.2
17.5°	975.6	974.6	973.5	972.5	971.5	969.7	967.1	964.4	961.8	959.2	960.4
20°	958.3	957.1	956.0	954.8	953.6	951.6	949.0	946.4	943.8	941.2	942.0
22.5°	938.8	937.6	936.4	935.2	934.0	932.1	929.5	927.0	924.4	921.7	922.4
25°	907.0	905.8	904.6	903.4	902.2	900.3	897.6	895.0	892.4	889.8	890.0
27.5°	872.9	871.7	870.6	869.4	868.2	866.3	863.4	860.7	857.8	855.0	855.1
30°	848.3	847.3	846.4	845.3	844.3	842.4	839.6	836.8	834.1	831.2	831.2
32.5°	823.8	822.5	821.1	819.8	818.6	816.8	814.6	812.4	810.3	808.1	807.0
35°	784.4	783.2	782.0	780.8	779.5	777.7	775.0	772.4	769.8	767.2	766.0
37.5°	743.9	742.4	740.9	739.3	737.9	735.8	733.1	730.5	727.8	725.2	723.8
40°	715.8	714.6	713.4	712.2	711.0	709.0	706.2	703.4	700.6	697.8	696.2
42.5°	687.7	686.3	684.9	683.6	682.3	680.2	677.3	674.5	671.8	668.9	667.4
45°	642.8	642.0	641.2	640.4	639.6	637.9	635.2	632.7	630.1	627.5	625.1
47.5°	598.2	597.1	595.9	594.8	593.6	591.8	589.4	586.9	584.4	582.0	579.6
50°	568.0	567.0	565.9	565.0	564.0	562.1	559.6	557.0	554.3	551.7	549.6
52.5°	536.2	535.5	534.9	534.2	533.5	531.8	529.0	526.2	523.5	520.7	518.8
55°	487.8	487.5	487.3	487.2	486.9	485.5	482.9	480.4	477.7	475.1	472.9
57.5°	441.6	440.9	440.2	439.5	438.9	437.5	435.4	433.3	431.2	429.1	427.1
60°	408.4	408.2	408.0	407.8	407.6	406.3	403.9	401.5	399.1	396.7	394.9
62.5°	378.8	378.3	377.8	377.3	376.8	375.3	372.9	370.5	368.1	365.7	363.9
65°	332.7	331.7	330.6	329.7	328.6	327.2	325.1	323.1	321.2	319.2	317.5
67.5°	283.8	282.9	282.1	281.1	280.3	279.1	277.6	276.0	274.5	273.0	271.6
70°	254.3	253.0	251.8	250.6	249.4	248.2	247.0	245.8	244.6	243.4	242.0
72.5°	223.3	222.3	221.4	220.6	219.7	218.6	217.2	215.9	214.5	213.1	211.9
75°	175.8	175.0	174.2	173.4	172.6	171.9	171.3	170.7	170.0	169.5	168.5
77.5°	133.8	133.4	132.9	132.5	132.0	131.5	130.7	130.0	129.3	128.5	127.9
80°	106.4	105.8	105.2	104.6	104.0	103.5	103.1	102.7	102.3	101.9	101.7
82.5°	79.7	79.6	79.5	79.3	79.2	79.1	79.0	79.0	78.9	78.8	78.4
85°	46.8	46.5	46.1	45.7	45.3	45.1	45.1	45.1	45.1	45.1	44.7
87.5°	18.9	18.5	18.3	17.9	17.6	17.5	17.6	17.7	17.7	17.7	17.7
90°	0.4	1.3	2.2	3.0	3.9	4.8	5.9	7.1	8.3	9.4	9.7
92.5°	9.5	10.1	10.6	11.2	11.8	12.4	13.1	13.7	14.4	15.0	15.2
95°	23.0	23.6	24.2	24.9	25.5	26.1	26.8	27.5	28.2	28.8	29.2
97.5°	40.9	41.3	41.8	42.3	42.7	43.1	43.7	44.2	44.7	45.2	45.5
100°	53.0	53.6	54.1	54.6	55.1	55.6	56.1	56.5	56.9	57.3	57.6
102.5°	67.1	67.4	67.8	68.0	68.4	68.8	69.4	69.9	70.5	71.1	71.4
105°	87.8	88.0	88.2	88.3	88.5	88.9	89.7	90.5	91.3	92.0	92.0
107.5°	111.8	111.9	112.0	112.1	112.3	112.4	112.8	113.0	113.4	113.7	114.0
110°	126.8	127.0	127.2	127.3	127.5	127.7	127.9	128.0	128.2	128.4	128.7



TEST NUMBER: P332155-935

CATALOG NUMBER: S123DIW-S775D460U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	142.4	142.5	142.7	142.8	142.8	142.9	142.9	143.0	143.0	143.0	143.4
115°	165.8	166.1	166.3	166.6	166.9	166.9	166.8	166.6	166.4	166.3	166.3
117.5°	189.4	189.6	189.8	189.9	190.1	190.0	189.9	189.6	189.4	189.2	189.2
120°	204.1	204.6	205.1	205.6	206.1	206.2	205.8	205.3	204.9	204.5	204.4
122.5°	219.4	219.7	220.2	220.5	220.8	220.9	220.8	220.5	220.3	220.1	219.8
125°	242.7	243.0	243.2	243.5	243.7	243.7	243.6	243.4	243.2	243.1	242.7
127.5°	264.2	264.8	265.4	265.9	266.5	266.7	266.5	266.2	266.0	265.9	265.4
130°	278.6	279.3	280.0	280.7	281.4	281.5	281.3	281.0	280.8	280.5	280.2
132.5°	292.9	293.6	294.4	295.1	295.8	296.0	295.8	295.6	295.4	295.2	294.8
135°	314.9	315.4	315.9	316.4	316.9	317.2	317.1	317.0	316.9	316.8	316.5
137.5°	335.2	335.6	336.0	336.5	336.9	337.3	337.4	337.7	337.9	338.1	337.8
140°	349.2	349.7	350.1	350.5	350.9	351.2	351.3	351.4	351.5	351.5	351.5
142.5°	362.1	362.5	362.9	363.3	363.8	364.0	364.2	364.4	364.5	364.6	364.5
145°	382.0	382.2	382.4	382.5	382.7	382.9	383.1	383.4	383.7	383.9	383.8
147.5°	399.5	399.8	400.1	400.4	400.7	401.0	401.2	401.5	401.7	402.0	402.0
150°	411.6	411.8	412.0	412.2	412.3	412.5	412.7	412.8	413.0	413.2	413.2
152.5°	421.6	421.9	422.1	422.3	422.6	422.8	422.8	423.0	423.1	423.2	423.4
155°	437.4	437.4	437.4	437.4	437.4	437.5	437.6	437.6	437.7	437.8	438.2
157.5°	450.8	450.7	450.6	450.5	450.4	450.4	450.5	450.6	450.6	450.6	451.0
160°	459.3	459.1	458.9	458.7	458.6	458.5	458.5	458.5	458.5	458.5	458.9
162.5°	466.7	466.5	466.2	466.0	465.8	465.7	465.7	465.8	465.9	466.0	466.4
165°	476.4	476.1	475.9	475.6	475.4	475.3	475.3	475.3	475.3	475.3	475.8
167.5°	484.1	483.8	483.5	483.1	482.8	482.6	482.7	482.8	482.8	482.8	483.5
170°	488.5	488.2	487.8	487.5	487.2	487.0	487.0	487.0	487.0	487.0	487.6
172.5°	492.0	491.6	491.3	490.9	490.5	490.3	490.3	490.3	490.3	490.3	490.9
175°	495.5	495.2	494.8	494.5	494.1	494.0	494.0	494.0	494.0	494.0	494.5
177.5°	497.1	496.7	496.5	496.2	495.9	495.8	495.8	495.8	495.8	495.8	496.2
180°	496.7	496.7	496.7	496.7	496.7	496.7	496.7	496.7	496.7	496.7	496.7



TEST NUMBER: P332155-935

CATALOG NUMBER: S123DIW-S775D460U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5
2.5°	1044.5	1046.1	1047.7	1048.4	1048.3	1048.1	1047.9	1047.8
5°	1039.0	1040.9	1043.0	1043.8	1043.4	1043.0	1042.6	1042.2
7.5°	1027.9	1029.8	1031.6	1032.3	1032.1	1031.8	1031.6	1031.4
10°	1017.9	1019.6	1021.4	1022.2	1021.7	1021.3	1021.0	1020.5
12.5°	1006.8	1008.1	1009.4	1010.0	1009.7	1009.4	1009.3	1009.0
15°	986.8	988.3	990.0	990.2	988.9	987.7	986.6	985.4
17.5°	961.5	962.6	963.7	964.1	963.6	963.2	962.8	962.3
20°	942.8	943.6	944.4	944.5	943.9	943.3	942.7	942.1
22.5°	923.0	923.7	924.3	924.2	923.5	922.7	922.0	921.2
25°	890.2	890.4	890.6	890.4	889.8	889.2	888.6	888.0
27.5°	855.3	855.5	855.7	855.3	854.6	853.9	853.1	852.3
30°	831.2	831.2	831.2	830.5	829.1	827.7	826.3	824.9
32.5°	805.9	804.8	803.7	802.7	801.9	801.2	800.4	799.7
35°	764.8	763.6	762.4	761.3	760.3	759.3	758.3	757.2
37.5°	722.3	720.8	719.5	718.4	717.7	717.1	716.4	715.8
40°	694.6	693.0	691.4	690.2	689.4	688.5	687.8	687.0
42.5°	665.7	664.1	662.5	661.3	660.6	659.7	658.9	658.1
45°	622.7	620.3	617.9	616.1	615.2	614.2	613.1	612.2
47.5°	577.3	575.0	572.6	570.9	570.1	569.2	568.3	567.4
50°	547.3	545.1	542.9	541.2	540.0	538.8	537.6	536.4
52.5°	516.9	515.1	513.2	511.7	510.5	509.3	508.1	506.9
55°	470.7	468.5	466.3	464.7	463.6	462.7	461.7	460.7
57.5°	425.2	423.3	421.3	419.7	418.5	417.4	416.2	415.1
60°	393.0	391.2	389.4	388.1	387.0	386.1	385.0	384.1
62.5°	362.1	360.2	358.4	357.2	356.5	355.9	355.2	354.5
65°	315.9	314.4	312.7	311.6	311.0	310.4	309.8	309.2
67.5°	270.2	268.8	267.3	266.2	265.4	264.6	263.7	262.9
70°	240.6	239.2	237.8	236.6	235.6	234.6	233.6	232.6
72.5°	210.6	209.4	208.2	207.2	206.7	206.2	205.7	205.2
75°	167.5	166.5	165.5	164.7	164.1	163.5	162.9	162.3
77.5°	127.2	126.5	125.8	125.5	125.5	125.5	125.5	125.5
80°	101.5	101.3	101.1	101.0	101.0	101.0	101.0	101.0
82.5°	78.1	77.7	77.3	77.1	77.0	76.8	76.6	76.5
85°	44.3	43.9	43.5	43.3	43.3	43.3	43.3	43.3
87.5°	17.6	17.5	17.4	17.3	17.4	17.4	17.5	17.5
90°	10.1	10.4	10.8	11.0	11.2	11.4	11.5	11.7
92.5°	15.5	15.8	16.1	16.2	16.1	15.9	15.8	15.8
95°	29.5	29.9	30.2	30.4	30.4	30.4	30.4	30.4
97.5°	46.0	46.4	46.8	46.9	46.9	46.9	46.8	46.8
100°	57.9	58.1	58.4	58.6	58.8	59.0	59.2	59.3
102.5°	71.6	71.9	72.2	72.2	72.2	72.2	72.2	72.1
105°	92.0	92.0	92.0	92.1	92.4	92.6	92.7	92.9
107.5°	114.3	114.5	114.8	114.9	114.8	114.7	114.6	114.5
110°	129.1	129.4	129.8	129.8	129.7	129.5	129.3	129.2



TEST NUMBER: P332155-935

CATALOG NUMBER: S123DIW-S775D460U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	143.9	144.3	144.7	144.9	144.8	144.8	144.8	144.7
115°	166.4	166.5	166.6	166.6	166.5	166.4	166.3	166.3
117.5°	189.2	189.1	189.1	189.0	188.7	188.5	188.2	188.0
120°	204.3	204.2	204.1	204.0	203.8	203.6	203.5	203.3
122.5°	219.6	219.4	219.1	219.0	218.7	218.4	218.2	217.9
125°	242.4	242.0	241.7	241.3	241.0	240.6	240.3	240.0
127.5°	264.9	264.4	263.9	263.5	263.1	262.7	262.3	261.9
130°	279.8	279.5	279.1	278.7	278.1	277.5	276.9	276.2
132.5°	294.4	293.9	293.5	293.1	292.7	292.1	291.7	291.2
135°	316.2	315.8	315.5	315.2	315.0	314.9	314.7	314.5
137.5°	337.4	337.1	336.7	336.3	336.0	335.7	335.4	335.0
140°	351.4	351.3	351.2	350.9	350.3	349.7	349.0	348.4
142.5°	364.5	364.4	364.3	364.0	363.6	363.1	362.7	362.1
145°	383.7	383.7	383.6	383.4	383.1	382.7	382.4	382.0
147.5°	402.0	402.0	402.0	401.7	401.2	400.6	400.1	399.6
150°	413.2	413.2	413.2	412.9	412.4	411.9	411.4	410.9
152.5°	423.4	423.6	423.8	423.6	423.2	422.7	422.2	421.8
155°	438.5	438.9	439.2	439.0	438.4	437.8	437.2	436.6
157.5°	451.4	451.8	452.1	452.0	451.6	451.1	450.6	450.1
160°	459.3	459.8	460.2	460.2	459.9	459.5	459.2	458.8
162.5°	466.8	467.3	467.7	467.6	467.1	466.5	466.0	465.4
165°	476.3	476.8	477.3	477.3	476.6	476.0	475.4	474.8
167.5°	484.0	484.5	485.0	485.0	484.5	484.0	483.5	482.8
170°	488.2	488.8	489.4	489.4	488.8	488.2	487.6	487.0
172.5°	491.5	492.0	492.5	492.5	491.9	491.3	490.7	490.1
175°	495.0	495.5	496.0	496.0	495.4	494.8	494.2	493.6
177.5°	496.6	497.1	497.4	497.4	496.9	496.5	495.9	495.4
180°	496.7	496.7	496.7	496.7	496.7	496.7	496.7	496.7

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