

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: P332154-935

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332154-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
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-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4317.5 lumens
Efficiency: N/A
Efficacy: 114.5 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

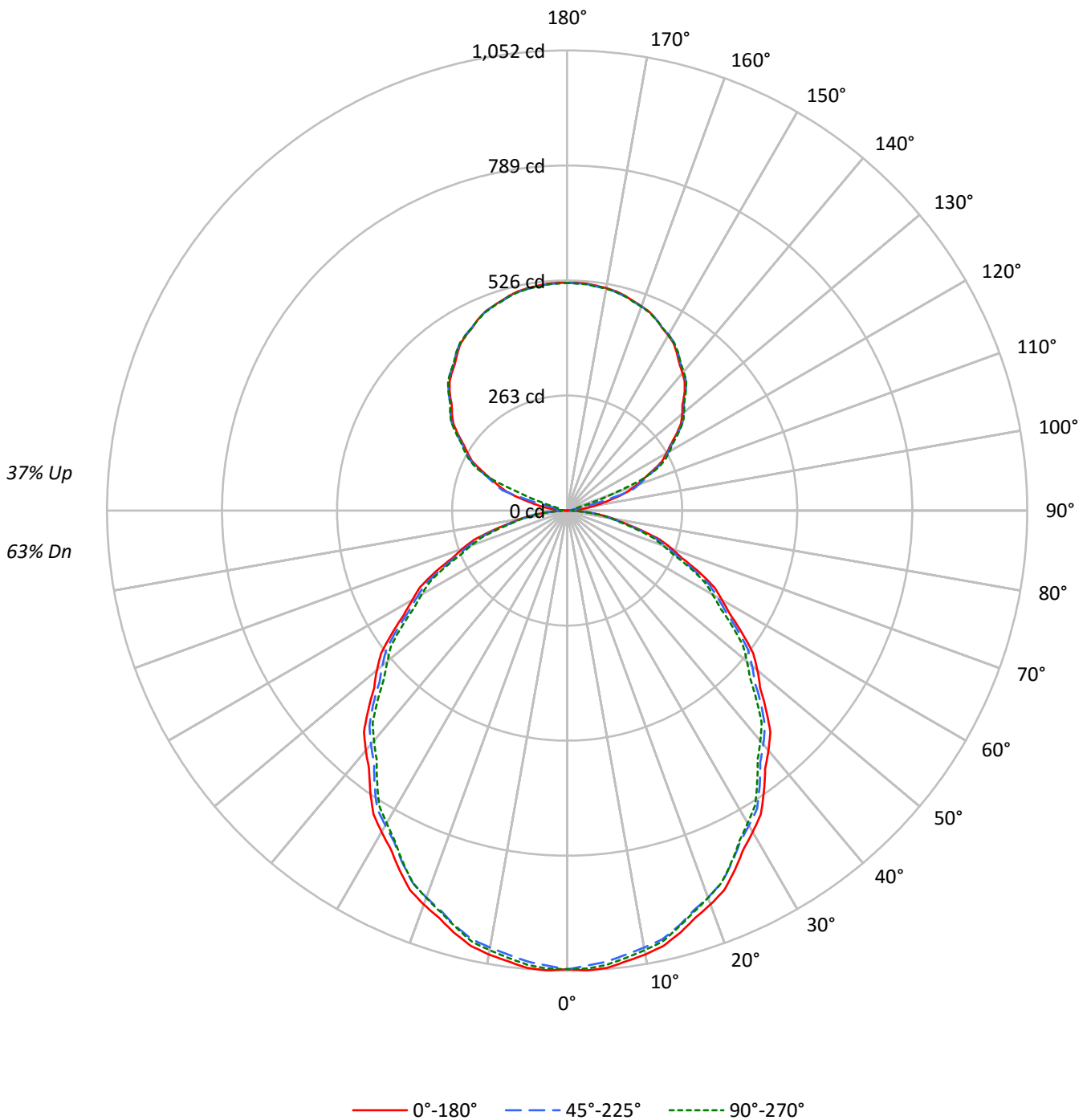
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332154-935

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

Luminous Intensity Polar Plot





TEST NUMBER: P332154-935

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

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	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68	63
1	101	96	92	89	94	90	87	84	79	77	74	69	68	66	60	59	58	53
2	92	84	78	72	86	79	73	69	70	65	62	61	58	55	53	51	48	44
3	84	74	66	60	78	70	63	57	61	56	52	54	50	46	47	44	41	38
4	77	65	57	51	71	62	54	49	55	49	44	48	43	40	42	38	35	32
5	70	58	50	44	66	55	48	42	49	43	38	43	38	34	38	34	31	28
6	65	52	44	38	61	50	42	36	44	38	33	39	34	30	34	30	27	25
7	60	47	39	33	56	45	37	32	40	34	29	36	31	27	31	27	24	22
8	56	43	35	30	52	41	34	29	37	31	26	33	28	24	29	25	22	19
9	52	39	32	27	49	37	30	26	34	28	24	30	25	22	27	23	20	18
10	49	36	29	24	46	34	28	23	31	25	21	28	23	20	25	21	18	16

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: P332154-935

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.8	2.3
10°-20°	278.9	6.5
20°-30°	411.9	9.5
30°-40°	481.2	11.1
40°-50°	483.8	11.2
50°-60°	425.0	9.8
60°-70°	316.6	7.3
70°-80°	180.4	4.2
80°-90°	53.2	1.2
90°-100°	18.9	0.4
100°-110°	90.2	2.1
110°-120°	216.7	5.0
120°-130°	276.0	6.4
130°-140°	294.8	6.8
140°-150°	275.7	6.4
150°-160°	222.4	5.2
160°-170°	143.5	3.3
170°-180°	49.5	1.1
0°-30°	789.6	18.3
0°-40°	1270.8	29.4
0°-60°	2179.5	50.5
0°-90°	2729.7	63.2
90°-120°	325.9	7.5
90°-150°	1172.4	27.2
90°-180°	1588.0	36.8
0°-180°	4317.5	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°	24	9	12	15	15	29
105°	115	117	85	20	17	122
115°	216	219	222	226	228	213
125°	305	308	309	310	311	272
135°	379	382	383	384	383	292
145°	438	440	441	442	442	274
155°	482	482	482	484	482	222
165°	509	508	507	510	508	144
175°	521	519	519	522	519	50
180°	521	521	521	521	521	



TEST NUMBER: P332154-935

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

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	17.6	17.7	17.7	17.7
90°	0.3	1.2	2.1	2.9	3.8	4.8	5.9	7.1	8.2	9.3	9.6
92.5°	7.2	7.0	6.7	6.5	6.2	6.5	7.4	8.2	9.0	9.9	10.4
95°	23.6	20.1	16.5	13.0	9.5	8.2	9.1	10.1	11.0	12.0	12.6
97.5°	47.4	45.8	44.3	42.7	41.1	37.2	31.0	24.8	18.7	12.5	13.2
100°	65.3	67.1	68.8	70.5	72.2	66.4	53.0	39.6	26.2	12.7	13.4
102.5°	85.8	87.0	88.3	89.5	90.7	84.0	69.4	54.8	40.1	25.5	23.3
105°	115.3	116.2	117.2	118.1	119.1	115.6	107.9	100.2	92.5	84.7	69.5
107.5°	146.4	147.1	147.9	148.6	149.4	150.4	151.6	152.8	154.0	155.2	144.1
110°	167.1	167.8	168.5	169.2	169.9	170.7	171.6	172.5	173.5	174.4	171.6



TEST NUMBER: P332154-935

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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	186.9	187.5	188.1	188.7	189.4	190.2	191.1	192.1	193.0	194.0	194.0
115°	216.2	216.7	217.2	217.7	218.3	219.0	219.7	220.5	221.3	222.1	222.9
117.5°	244.6	245.3	245.9	246.5	247.2	247.7	248.1	248.5	248.9	249.3	249.9
120°	262.3	263.0	263.8	264.6	265.4	265.9	266.1	266.4	266.7	266.9	267.6
122.5°	280.3	280.9	281.5	282.1	282.8	283.3	283.6	283.9	284.2	284.6	285.0
125°	304.8	305.5	306.2	306.9	307.5	308.1	308.4	308.8	309.1	309.4	309.6
127.5°	328.6	329.3	330.0	330.7	331.4	331.9	332.3	332.8	333.2	333.6	333.9
130°	343.5	344.2	344.9	345.6	346.3	346.8	347.2	347.5	347.8	348.1	348.4
132.5°	357.7	358.4	359.1	359.8	360.5	360.9	361.3	361.5	361.8	362.1	362.4
135°	379.4	380.0	380.5	381.0	381.5	381.9	382.3	382.6	383.0	383.3	383.6
137.5°	398.0	398.7	399.3	400.0	400.6	401.1	401.3	401.5	401.7	401.8	402.3
140°	410.4	411.0	411.5	412.0	412.5	412.8	413.1	413.4	413.6	413.9	414.2
142.5°	421.9	422.4	422.9	423.4	424.0	424.3	424.6	424.8	425.1	425.3	425.6
145°	437.9	438.5	439.1	439.7	440.3	440.7	440.8	441.0	441.2	441.3	441.5
147.5°	453.0	453.4	453.7	454.2	454.5	454.9	455.0	455.2	455.4	455.6	455.7
150°	462.3	462.5	462.8	463.0	463.3	463.5	463.6	463.8	464.0	464.2	464.3
152.5°	470.6	470.7	470.9	471.0	471.1	471.2	471.3	471.4	471.5	471.7	471.9
155°	482.3	482.2	482.0	481.9	481.7	481.6	481.7	481.8	481.9	482.0	482.4
157.5°	491.5	491.5	491.5	491.5	491.5	491.4	491.3	491.2	491.1	491.0	491.5
160°	497.1	497.0	496.9	496.8	496.7	496.6	496.5	496.5	496.4	496.3	496.8
162.5°	502.3	502.1	501.9	501.7	501.4	501.3	501.2	501.1	501.0	500.9	501.5
165°	508.7	508.4	508.2	507.9	507.6	507.5	507.4	507.3	507.2	507.1	507.8
167.5°	513.7	513.3	513.0	512.6	512.3	512.1	512.1	512.1	512.1	512.1	512.8
170°	516.4	516.1	515.7	515.4	515.1	514.9	514.9	514.9	514.9	514.9	515.6
172.5°	518.2	517.9	517.5	517.0	516.6	516.4	516.5	516.6	516.7	516.7	517.4
175°	520.6	520.2	519.8	519.4	518.9	518.8	518.8	518.9	519.0	519.1	519.7
177.5°	521.2	520.9	520.6	520.2	519.9	519.8	519.9	519.9	520.0	520.0	520.6
180°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6



TEST NUMBER: P332154-935

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

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	17.4	17.5
90°	10.0	10.3	10.7	10.9	11.1	11.3	11.5	11.6
92.5°	11.0	11.5	12.1	12.4	12.6	12.7	12.7	12.8
95°	13.2	13.8	14.4	14.7	14.7	14.7	14.7	14.7
97.5°	13.9	14.6	15.2	15.6	15.7	15.8	15.8	15.9
100°	14.1	14.8	15.5	15.9	16.0	16.1	16.2	16.3
102.5°	21.2	19.0	17.0	15.9	16.1	16.3	16.4	16.5
105°	54.2	39.1	23.8	16.4	16.5	16.7	16.9	17.0
107.5°	132.9	121.8	110.6	99.4	87.8	76.4	64.9	53.5
110°	168.8	165.9	163.1	155.6	143.3	131.0	118.6	106.4



TEST NUMBER: P332154-935

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	194.1	194.1	194.2	192.9	190.3	187.7	185.1	182.5
115°	223.8	224.6	225.5	226.1	226.4	226.8	227.1	227.5
117.5°	250.6	251.3	252.0	252.4	252.4	252.5	252.6	252.7
120°	268.3	269.0	269.7	270.0	270.0	270.0	270.0	270.0
122.5°	285.5	286.0	286.5	286.7	286.8	286.9	287.0	287.1
125°	309.8	310.0	310.1	310.3	310.5	310.6	310.8	311.0
127.5°	334.2	334.4	334.7	334.8	334.6	334.4	334.2	334.1
130°	348.8	349.1	349.5	349.6	349.4	349.2	349.0	348.9
132.5°	362.7	363.1	363.4	363.5	363.3	363.0	362.7	362.6
135°	383.8	384.1	384.4	384.4	384.1	383.8	383.6	383.3
137.5°	402.7	403.0	403.5	403.6	403.5	403.3	403.1	402.9
140°	414.6	414.9	415.3	415.3	415.2	415.0	414.8	414.7
142.5°	425.9	426.2	426.5	426.5	426.2	426.0	425.8	425.5
145°	441.7	441.9	442.0	442.1	442.1	442.1	442.1	442.1
147.5°	455.9	456.1	456.2	456.1	455.7	455.3	455.0	454.5
150°	464.5	464.7	464.9	464.9	464.6	464.3	464.1	463.8
152.5°	472.3	472.5	472.9	472.8	472.4	472.0	471.7	471.2
155°	482.8	483.3	483.7	483.6	483.1	482.6	482.1	481.6
157.5°	492.1	492.6	493.1	493.0	492.3	491.7	491.0	490.3
160°	497.3	497.8	498.3	498.3	497.7	497.1	496.5	495.9
162.5°	502.1	502.7	503.3	503.3	502.7	502.2	501.7	501.2
165°	508.5	509.2	509.9	509.9	509.3	508.8	508.2	507.6
167.5°	513.5	514.1	514.8	514.8	514.1	513.5	512.8	512.1
170°	516.3	516.9	517.6	517.6	516.9	516.3	515.6	514.9
172.5°	518.1	518.8	519.4	519.4	518.7	517.9	517.2	516.4
175°	520.3	520.9	521.5	521.5	520.8	520.1	519.4	518.8
177.5°	521.2	521.7	522.3	522.2	521.5	520.8	520.1	519.4
180°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6

(END OF REPORT)