

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: P332154-840

Luminaire Tested: **S123DIW-S775D460U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332154-840
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-S775D460U840-4F0-1E-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: 5064.0 lumens
Efficiency: N/A
Efficacy: 134.3 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

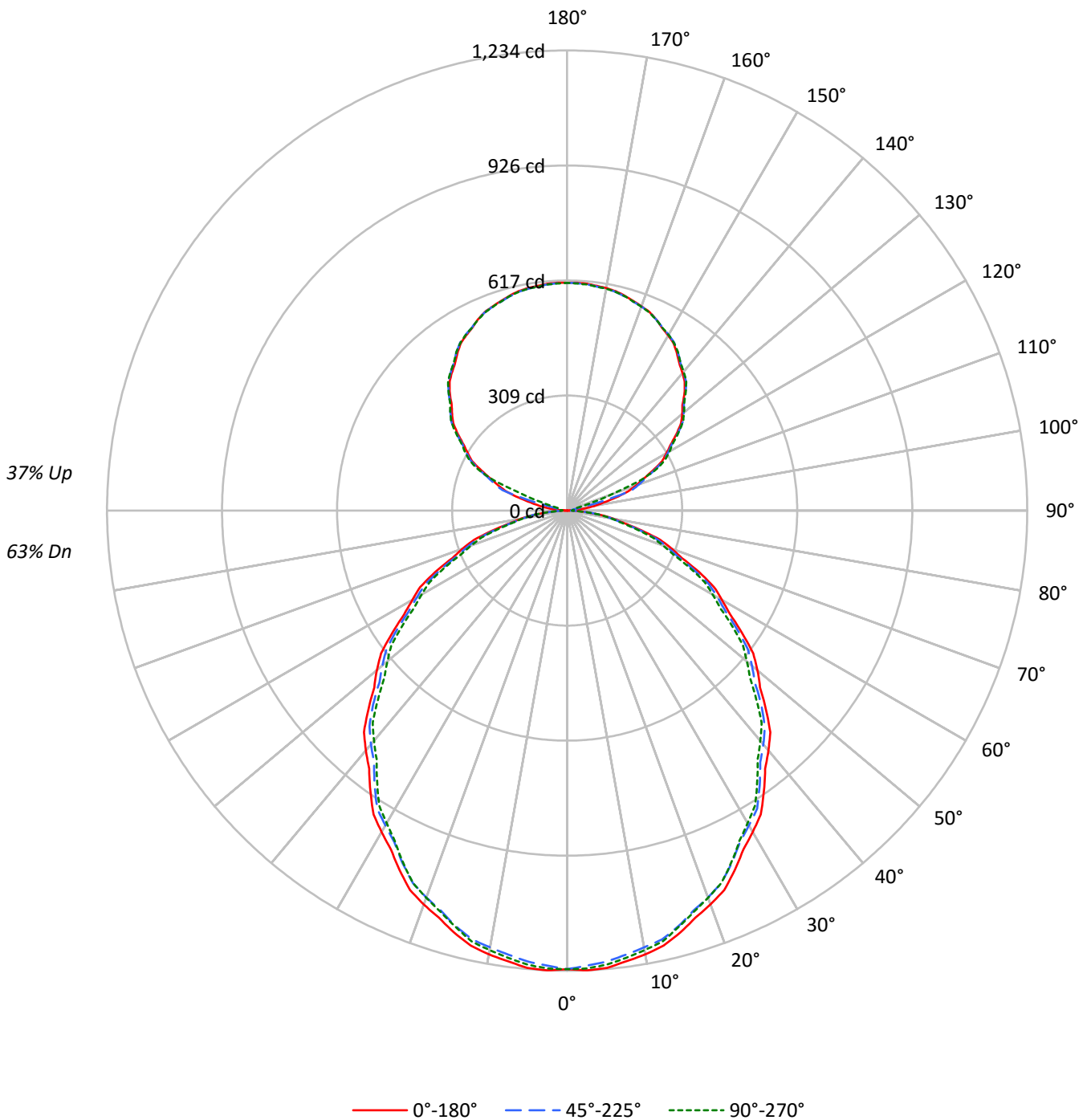
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332154-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-F

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	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°	13237	13237	13237
5°	13299	13116	13207
10°	13210	13002	13083
15°	13056	12856	12880
20°	12875	12645	12657
25°	12634	12396	12371
30°	12367	12117	12026
35°	12089	11825	11671
40°	11797	11500	11323
45°	11478	11204	10930
50°	11156	10836	10535
55°	10736	10457	10141
60°	10312	10015	9698
65°	9938	9536	9235
70°	9385	8985	8585
75°	8576	8268	7918
80°	7736	7407	7345
85°	6780	6533	6274



TEST NUMBER: P332154-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.8	2.3
10°-20°	327.1	6.5
20°-30°	483.2	9.5
30°-40°	564.4	11.1
40°-50°	567.4	11.2
50°-60°	498.4	9.8
60°-70°	371.3	7.3
70°-80°	211.6	4.2
80°-90°	62.4	1.2
90°-100°	22.2	0.4
100°-110°	105.8	2.1
110°-120°	254.2	5.0
120°-130°	323.7	6.4
130°-140°	345.8	6.8
140°-150°	323.4	6.4
150°-160°	260.8	5.2
160°-170°	168.4	3.3
170°-180°	58.0	1.1
0°-30°	926.1	18.3
0°-40°	1490.5	29.4
0°-60°	2556.3	50.5
0°-90°	3201.7	63.2
90°-120°	382.2	7.5
90°-150°	1375.1	27.2
90°-180°	1862.0	36.8
0°-180°	5064.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1230	1230	1230	1230	1230	
5°	1231	1225	1214	1224	1222	117
15°	1172	1167	1154	1161	1156	330
25°	1064	1057	1044	1044	1042	490
35°	920	913	900	894	888	575
45°	754	749	736	724	718	582
55°	572	570	557	546	540	512
65°	390	385	374	366	363	385
75°	206	202	199	194	190	221
85°	55	53	53	51	51	60
90°	0	5	11	13	14	4
95°	28	10	14	17	17	34
105°	135	138	99	24	20	143
115°	254	256	260	265	267	250
125°	358	361	363	364	365	319
135°	445	448	450	451	450	343
145°	514	517	518	519	519	321
155°	566	565	565	567	565	261
165°	597	595	595	598	595	169
175°	611	608	609	612	608	58
180°	611	611	611	611	611	



TEST NUMBER: P332154-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8
2.5°	1234.0	1233.2	1232.5	1231.7	1231.0	1229.6	1227.5	1225.5	1223.4	1221.3	1223.1
5°	1230.8	1229.6	1228.5	1227.3	1226.1	1224.3	1221.6	1219.1	1216.5	1213.9	1216.3
7.5°	1218.8	1217.6	1216.4	1215.3	1214.1	1212.1	1209.4	1206.8	1204.1	1201.4	1203.6
10°	1208.6	1207.4	1206.3	1205.1	1204.0	1201.8	1198.7	1195.7	1192.7	1189.6	1191.7
12.5°	1195.1	1194.1	1193.2	1192.1	1191.1	1189.2	1186.4	1183.5	1180.6	1177.7	1179.3
15°	1171.6	1170.6	1169.7	1168.8	1167.8	1165.9	1162.8	1159.7	1156.7	1153.7	1155.5
17.5°	1144.3	1143.1	1141.9	1140.6	1139.4	1137.3	1134.3	1131.1	1128.1	1125.1	1126.4
20°	1124.0	1122.6	1121.3	1119.8	1118.4	1116.1	1113.1	1110.0	1107.0	1103.9	1104.9
22.5°	1101.2	1099.7	1098.3	1096.9	1095.5	1093.3	1090.3	1087.2	1084.2	1081.1	1081.9
25°	1063.8	1062.4	1061.0	1059.6	1058.1	1055.9	1052.8	1049.8	1046.7	1043.7	1043.9
27.5°	1023.8	1022.4	1021.1	1019.7	1018.3	1016.0	1012.7	1009.5	1006.1	1002.8	1003.0
30°	995.0	993.8	992.7	991.5	990.3	988.1	984.8	981.5	978.3	974.9	974.9
32.5°	966.2	964.7	963.1	961.6	960.1	958.1	955.4	952.9	950.4	947.9	946.5
35°	920.0	918.6	917.2	915.7	914.3	912.1	909.0	905.9	902.9	899.9	898.5
37.5°	872.5	870.8	869.0	867.2	865.5	863.0	859.9	856.8	853.6	850.6	848.9
40°	839.6	838.2	836.8	835.4	833.9	831.6	828.3	825.1	821.7	818.4	816.6
42.5°	806.6	805.0	803.3	801.8	800.2	797.8	794.5	791.1	787.9	784.6	782.7
45°	754.0	753.0	752.0	751.1	750.1	748.2	745.1	742.0	739.0	736.0	733.2
47.5°	701.7	700.3	698.9	697.6	696.2	694.1	691.3	688.4	685.5	682.7	679.8
50°	666.2	665.0	663.8	662.7	661.5	659.3	656.3	653.3	650.2	647.1	644.6
52.5°	628.9	628.1	627.3	626.5	625.7	623.7	620.5	617.2	614.0	610.8	608.5
55°	572.1	571.8	571.6	571.4	571.1	569.5	566.4	563.4	560.3	557.2	554.7
57.5°	518.0	517.2	516.3	515.5	514.7	513.1	510.7	508.2	505.7	503.3	501.0
60°	479.0	478.8	478.6	478.3	478.1	476.6	473.7	470.9	468.1	465.2	463.1
62.5°	444.3	443.7	443.1	442.5	441.9	440.2	437.4	434.5	431.7	428.9	426.8
65°	390.2	389.0	387.8	386.7	385.5	383.7	381.3	379.0	376.7	374.4	372.4
67.5°	332.9	331.8	330.8	329.7	328.7	327.3	325.6	323.8	321.9	320.2	318.5
70°	298.2	296.8	295.4	294.0	292.6	291.1	289.7	288.3	286.9	285.5	283.9
72.5°	261.9	260.7	259.7	258.7	257.7	256.4	254.8	253.2	251.6	249.9	248.5
75°	206.2	205.2	204.3	203.4	202.5	201.6	200.9	200.2	199.4	198.8	197.6
77.5°	156.9	156.4	155.9	155.4	154.8	154.2	153.3	152.5	151.7	150.8	150.0
80°	124.8	124.1	123.4	122.7	122.0	121.4	120.9	120.5	120.0	119.5	119.3
82.5°	93.5	93.3	93.2	93.0	92.9	92.8	92.7	92.6	92.5	92.4	92.0
85°	54.9	54.5	54.0	53.6	53.1	52.9	52.9	52.9	52.9	52.9	52.4
87.5°	22.1	21.7	21.4	21.0	20.6	20.5	20.6	20.6	20.7	20.8	20.7
90°	0.4	1.4	2.4	3.4	4.4	5.7	7.0	8.3	9.6	10.9	11.3
92.5°	8.5	8.2	7.9	7.6	7.3	7.7	8.7	9.6	10.6	11.6	12.2
95°	27.7	23.5	19.4	15.2	11.1	9.6	10.7	11.8	12.9	14.0	14.7
97.5°	55.6	53.7	51.9	50.1	48.2	43.6	36.4	29.1	21.9	14.6	15.5
100°	76.6	78.7	80.7	82.7	84.7	77.9	62.2	46.5	30.7	14.9	15.8
102.5°	100.6	102.1	103.5	105.0	106.4	98.6	81.4	64.2	47.1	29.9	27.4
105°	135.2	136.3	137.4	138.6	139.7	135.6	126.5	117.5	108.5	99.4	81.5
107.5°	171.7	172.6	173.5	174.3	175.2	176.4	177.8	179.3	180.7	182.1	169.1
110°	196.0	196.8	197.6	198.4	199.2	200.2	201.3	202.4	203.5	204.6	201.3



TEST NUMBER: P332154-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	219.2	219.9	220.7	221.4	222.2	223.1	224.2	225.3	226.4	227.5	227.5
115°	253.6	254.2	254.8	255.4	256.0	256.8	257.7	258.6	259.5	260.4	261.5
117.5°	286.9	287.7	288.4	289.1	289.9	290.5	290.9	291.4	292.0	292.4	293.2
120°	307.6	308.5	309.4	310.3	311.2	311.8	312.1	312.5	312.8	313.1	313.9
122.5°	328.7	329.4	330.1	330.9	331.6	332.2	332.6	333.0	333.4	333.8	334.3
125°	357.5	358.3	359.1	359.9	360.7	361.3	361.7	362.1	362.5	362.9	363.1
127.5°	385.5	386.3	387.1	387.9	388.7	389.3	389.8	390.3	390.8	391.3	391.6
130°	402.9	403.7	404.6	405.4	406.2	406.8	407.2	407.6	408.0	408.3	408.7
132.5°	419.6	420.4	421.2	422.0	422.8	423.3	423.7	424.0	424.3	424.6	425.1
135°	445.0	445.7	446.3	446.9	447.5	448.0	448.4	448.8	449.2	449.6	449.9
137.5°	466.9	467.7	468.4	469.2	469.9	470.4	470.7	470.9	471.1	471.3	471.8
140°	481.4	482.0	482.6	483.2	483.8	484.2	484.5	484.8	485.1	485.4	485.8
142.5°	494.8	495.4	496.0	496.7	497.3	497.7	498.0	498.3	498.6	498.9	499.2
145°	513.6	514.3	515.0	515.7	516.4	516.8	517.1	517.3	517.5	517.7	517.9
147.5°	531.3	531.8	532.2	532.7	533.1	533.5	533.7	533.9	534.1	534.3	534.5
150°	542.2	542.5	542.8	543.1	543.4	543.6	543.8	544.0	544.2	544.4	544.6
152.5°	552.0	552.1	552.3	552.4	552.6	552.7	552.8	552.9	553.0	553.2	553.5
155°	565.7	565.5	565.3	565.2	565.0	564.9	565.0	565.1	565.2	565.3	565.8
157.5°	576.5	576.4	576.4	576.4	576.4	576.3	576.2	576.1	576.0	575.9	576.5
160°	583.0	582.9	582.8	582.7	582.6	582.5	582.4	582.3	582.2	582.1	582.7
162.5°	589.2	589.0	588.7	588.4	588.1	587.9	587.8	587.7	587.6	587.5	588.2
165°	596.6	596.3	596.0	595.7	595.4	595.2	595.1	595.0	594.9	594.8	595.6
167.5°	602.5	602.1	601.7	601.3	600.9	600.7	600.7	600.7	600.7	600.7	601.5
170°	605.7	605.3	604.9	604.5	604.1	603.9	603.9	603.9	603.9	603.9	604.7
172.5°	607.8	607.4	606.9	606.4	605.9	605.7	605.8	605.9	606.0	606.0	606.8
175°	610.7	610.2	609.7	609.2	608.6	608.4	608.5	608.6	608.7	608.8	609.6
177.5°	611.4	611.0	610.6	610.2	609.8	609.7	609.8	609.8	609.9	610.0	610.6
180°	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7



TEST NUMBER: P332154-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8
2.5°	1225.1	1227.0	1228.8	1229.7	1229.5	1229.3	1229.1	1228.9
5°	1218.6	1220.9	1223.4	1224.3	1223.8	1223.4	1222.8	1222.3
7.5°	1205.7	1207.8	1209.9	1210.8	1210.5	1210.2	1209.9	1209.7
10°	1193.9	1195.9	1198.0	1198.9	1198.4	1197.9	1197.5	1197.0
12.5°	1180.8	1182.3	1184.0	1184.6	1184.3	1184.0	1183.8	1183.5
15°	1157.4	1159.2	1161.1	1161.3	1159.9	1158.5	1157.2	1155.8
17.5°	1127.7	1129.0	1130.3	1130.7	1130.2	1129.7	1129.2	1128.7
20°	1105.8	1106.7	1107.7	1107.8	1107.1	1106.4	1105.7	1105.0
22.5°	1082.6	1083.4	1084.1	1084.0	1083.2	1082.3	1081.4	1080.5
25°	1044.1	1044.4	1044.6	1044.4	1043.7	1043.0	1042.3	1041.6
27.5°	1003.2	1003.4	1003.6	1003.2	1002.4	1001.5	1000.6	999.7
30°	974.9	974.9	974.9	974.1	972.5	970.8	969.2	967.6
32.5°	945.2	943.9	942.6	941.5	940.6	939.7	938.8	938.0
35°	897.1	895.6	894.2	892.9	891.7	890.6	889.4	888.2
37.5°	847.2	845.5	843.8	842.6	841.8	841.1	840.3	839.6
40°	814.7	812.8	810.9	809.5	808.6	807.6	806.7	805.8
42.5°	780.8	778.9	777.1	775.7	774.8	773.8	772.8	771.9
45°	730.3	727.5	724.7	722.7	721.5	720.3	719.1	718.0
47.5°	677.1	674.4	671.6	669.6	668.6	667.6	666.6	665.5
50°	642.0	639.3	636.8	634.8	633.4	632.0	630.6	629.1
52.5°	606.3	604.1	601.9	600.2	598.7	597.3	595.9	594.5
55°	552.1	549.5	546.9	545.0	543.8	542.7	541.5	540.4
57.5°	498.7	496.4	494.1	492.3	490.9	489.6	488.2	486.9
60°	461.0	458.9	456.8	455.1	453.9	452.8	451.6	450.5
62.5°	424.6	422.5	420.4	419.0	418.2	417.4	416.6	415.8
65°	370.5	368.7	366.8	365.5	364.8	364.1	363.3	362.6
67.5°	316.9	315.3	313.6	312.3	311.3	310.3	309.3	308.3
70°	282.3	280.5	278.9	277.5	276.3	275.2	274.0	272.8
72.5°	247.0	245.6	244.2	243.1	242.5	241.9	241.3	240.7
75°	196.4	195.3	194.1	193.2	192.5	191.8	191.1	190.4
77.5°	149.2	148.3	147.5	147.2	147.2	147.2	147.2	147.2
80°	119.1	118.8	118.6	118.5	118.5	118.5	118.5	118.5
82.5°	91.6	91.2	90.7	90.4	90.3	90.1	89.9	89.7
85°	51.9	51.5	51.0	50.8	50.8	50.8	50.8	50.8
87.5°	20.6	20.5	20.4	20.3	20.4	20.4	20.4	20.5
90°	11.7	12.1	12.5	12.8	13.0	13.2	13.4	13.6
92.5°	12.9	13.5	14.2	14.5	14.7	14.8	14.9	15.0
95°	15.5	16.2	16.9	17.3	17.3	17.3	17.3	17.3
97.5°	16.3	17.1	17.9	18.3	18.4	18.5	18.6	18.7
100°	16.6	17.4	18.2	18.7	18.8	18.9	19.0	19.1
102.5°	24.8	22.3	19.9	18.7	18.9	19.1	19.2	19.4
105°	63.6	45.8	28.0	19.2	19.4	19.6	19.8	20.0
107.5°	155.9	142.9	129.8	116.5	103.0	89.6	76.1	62.7
110°	197.9	194.6	191.3	182.5	168.0	153.6	139.2	124.8



TEST NUMBER: P332154-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	227.6	227.6	227.7	226.2	223.2	220.2	217.1	214.1
115°	262.5	263.5	264.5	265.2	265.6	266.0	266.4	266.8
117.5°	294.0	294.8	295.6	296.0	296.1	296.2	296.3	296.4
120°	314.7	315.5	316.3	316.7	316.7	316.7	316.7	316.7
122.5°	334.9	335.5	336.0	336.3	336.4	336.5	336.6	336.7
125°	363.3	363.6	363.8	364.0	364.2	364.4	364.6	364.8
127.5°	391.9	392.2	392.5	392.6	392.4	392.2	392.0	391.8
130°	409.1	409.5	409.9	410.0	409.8	409.6	409.4	409.2
132.5°	425.5	425.9	426.3	426.4	426.1	425.8	425.5	425.3
135°	450.2	450.5	450.8	450.8	450.5	450.2	449.9	449.6
137.5°	472.3	472.7	473.2	473.4	473.2	473.0	472.8	472.6
140°	486.3	486.7	487.1	487.2	487.0	486.8	486.6	486.4
142.5°	499.6	499.9	500.2	500.2	499.9	499.7	499.4	499.1
145°	518.1	518.3	518.5	518.6	518.6	518.6	518.6	518.6
147.5°	534.7	534.9	535.1	534.9	534.5	534.0	533.6	533.1
150°	544.8	545.0	545.2	545.2	544.9	544.6	544.3	544.0
152.5°	553.9	554.2	554.6	554.5	554.1	553.6	553.2	552.7
155°	566.3	566.8	567.3	567.2	566.6	566.0	565.4	564.9
157.5°	577.1	577.7	578.3	578.2	577.4	576.7	575.9	575.1
160°	583.3	583.9	584.5	584.5	583.8	583.1	582.4	581.7
162.5°	589.0	589.7	590.3	590.4	589.7	589.1	588.4	587.8
165°	596.4	597.2	598.0	598.0	597.3	596.7	596.0	595.3
167.5°	602.3	603.0	603.8	603.8	603.0	602.3	601.5	600.7
170°	605.5	606.3	607.1	607.1	606.3	605.5	604.7	603.9
172.5°	607.6	608.4	609.3	609.3	608.3	607.4	606.6	605.7
175°	610.3	611.0	611.7	611.7	610.9	610.1	609.3	608.4
177.5°	611.3	611.9	612.6	612.5	611.7	610.9	610.1	609.3
180°	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7

(END OF REPORT)