

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: P332160-840

Luminaire Tested: **S123DIW-S775D755U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332160-840
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-S775D755U840-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6253.0 lumens
Efficiency: N/A
Efficacy: 139.0 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

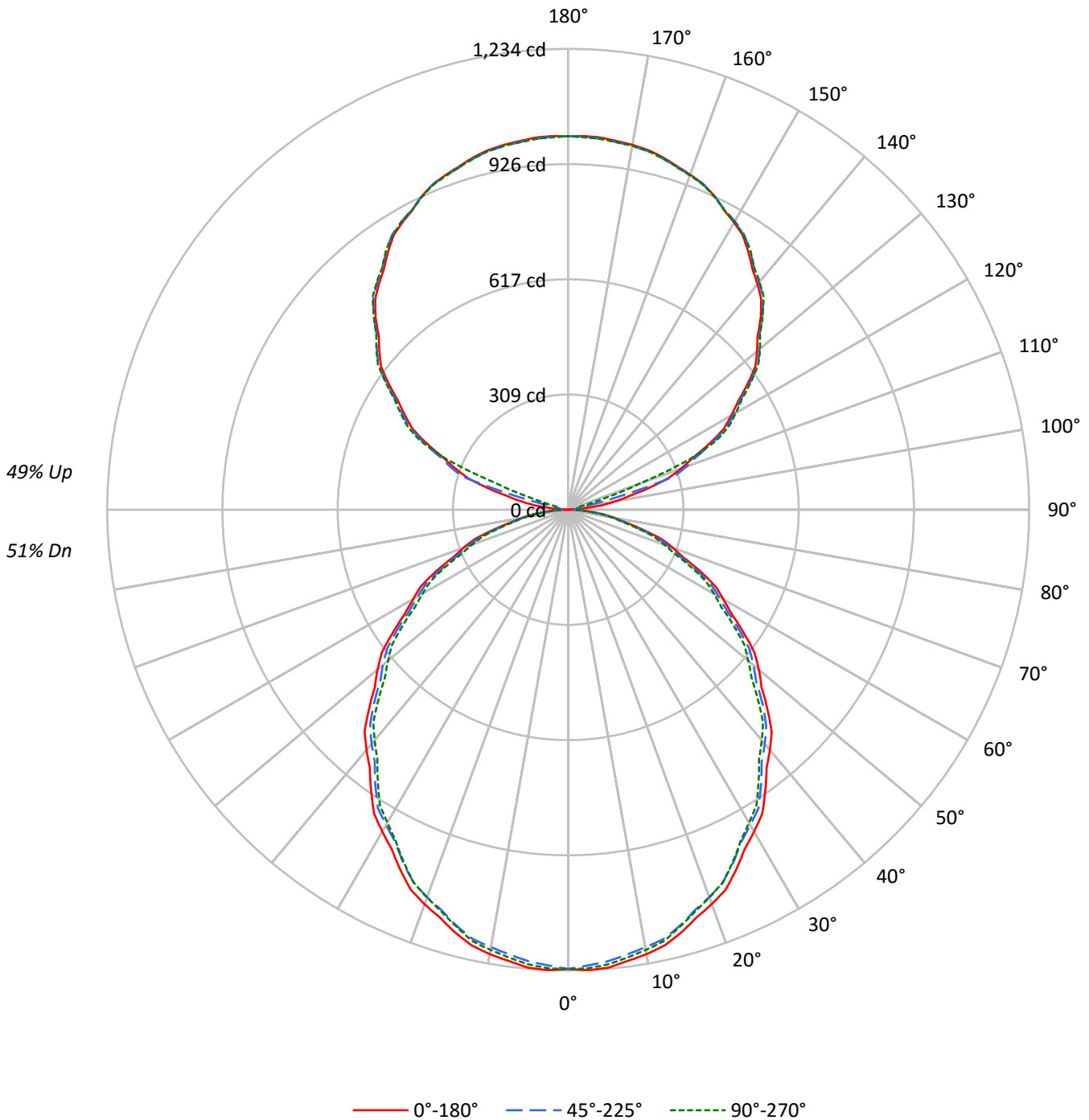
Input Watts (W): 45
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	84	84	84		70	70	70		57	57	57	51
1	98	94	90	86	90	87	83	80	74	71	69		62	60	58		50	49	48	43
2	89	82	76	70	82	76	70	66	64	60	57		54	51	49		44	42	41	36
3	81	72	64	59	75	67	60	55	57	52	48		48	44	41		39	37	34	30
4	74	64	56	49	68	59	52	47	50	45	41		43	38	35		35	32	30	26
5	68	57	48	42	63	53	45	40	45	39	35		38	34	30		32	28	26	23
6	63	51	43	37	58	47	40	35	41	35	31		34	30	27		29	25	23	20
7	58	46	38	32	54	43	36	30	37	31	27		31	27	24		26	23	20	18
8	54	42	34	28	50	39	32	27	34	28	24		29	24	21		24	21	18	16
9	50	38	30	25	46	36	29	24	31	25	21		26	22	19		22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	19		24	20	17		21	17	15	13

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.8	1.9
10°-20°	327.1	5.2
20°-30°	483.2	7.7
30°-40°	564.4	9.0
40°-50°	567.4	9.1
50°-60°	498.4	8.0
60°-70°	371.3	5.9
70°-80°	211.6	3.4
80°-90°	63.5	1.0
90°-100°	36.4	0.6
100°-110°	173.3	2.8
110°-120°	416.3	6.7
120°-130°	530.1	8.5
130°-140°	566.4	9.1
140°-150°	529.7	8.5
150°-160°	427.3	6.8
160°-170°	275.7	4.4
170°-180°	95.0	1.5
0°-30°	926.1	14.8
0°-40°	1490.5	23.8
0°-60°	2556.3	40.9
0°-90°	3202.8	51.2
90°-120°	626.0	10.0
90°-150°	2252.2	36.0
90°-180°	3050.0	48.8
0°-180°	6253.0	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°	1	8	18	21	22	5
95°	45	17	23	28	28	56
105°	222	225	163	39	33	235
115°	415	420	427	434	437	410
125°	586	591	594	596	597	523
135°	729	733	736	738	736	561
145°	841	846	848	849	849	526
155°	927	925	926	929	925	427
165°	977	975	974	980	975	276
175°	1000	997	997	1002	996	95
180°	1000	1000	1000	1000	1000	



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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	21.9	21.7	21.4	21.2	21.2	21.4	21.7	21.9	22.2	22.1
90°	0.7	2.4	4.0	5.7	7.4	9.3	11.4	13.5	15.7	17.9	18.5
92.5°	13.8	13.3	12.9	12.4	12.0	12.5	14.1	15.8	17.4	19.0	20.1
95°	45.3	38.6	31.8	25.0	18.3	15.8	17.6	19.4	21.2	23.0	24.2
97.5°	91.1	88.1	85.0	82.0	79.0	71.5	59.6	47.7	35.9	23.9	25.2
100°	125.6	128.9	132.2	135.5	138.8	127.5	101.8	76.0	50.3	24.5	25.9
102.5°	164.8	167.2	169.6	172.0	174.3	161.5	133.3	105.1	77.1	48.9	44.8
105°	221.5	223.3	225.1	226.9	228.7	222.2	207.3	192.5	177.6	162.8	133.5
107.5°	281.1	282.7	284.1	285.6	287.0	288.9	291.2	293.6	296.0	298.3	276.8
110°	321.0	322.3	323.7	325.0	326.3	327.9	329.7	331.5	333.4	335.2	329.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	359.1	360.2	361.4	362.6	363.9	365.4	367.2	369.0	370.8	372.6	372.7
115°	415.4	416.4	417.4	418.4	419.4	420.6	422.1	423.5	425.1	426.6	428.2
117.5°	470.0	471.2	472.4	473.6	474.8	475.8	476.6	477.4	478.1	478.9	480.2
120°	503.8	505.3	506.9	508.3	509.8	510.8	511.3	511.8	512.3	512.7	514.1
122.5°	538.4	539.6	540.8	542.0	543.2	544.1	544.7	545.4	546.0	546.6	547.5
125°	585.6	586.9	588.2	589.6	590.9	591.9	592.5	593.2	593.8	594.5	594.8
127.5°	631.4	632.7	634.0	635.3	636.6	637.7	638.5	639.2	640.1	640.9	641.4
130°	659.8	661.3	662.6	663.9	665.2	666.2	666.8	667.5	668.1	668.8	669.4
132.5°	687.2	688.5	689.8	691.2	692.6	693.5	694.0	694.5	695.0	695.6	696.2
135°	729.0	730.0	730.9	732.0	733.0	733.8	734.5	735.1	735.8	736.4	736.9
137.5°	764.7	765.9	767.2	768.4	769.7	770.5	770.8	771.2	771.6	771.9	772.7
140°	788.4	789.4	790.4	791.4	792.4	793.1	793.7	794.2	794.7	795.2	795.8
142.5°	810.4	811.4	812.4	813.4	814.5	815.2	815.7	816.2	816.7	817.2	817.7
145°	841.2	842.3	843.5	844.7	845.9	846.6	846.9	847.3	847.6	847.9	848.2
147.5°	870.2	870.9	871.7	872.4	873.2	873.7	874.1	874.4	874.7	875.0	875.5
150°	888.1	888.5	889.0	889.5	890.0	890.4	890.8	891.1	891.4	891.7	892.1
152.5°	904.0	904.3	904.5	904.7	905.0	905.2	905.4	905.6	905.8	906.1	906.6
155°	926.7	926.3	926.0	925.6	925.3	925.2	925.4	925.6	925.7	925.9	926.8
157.5°	944.2	944.2	944.1	944.1	944.1	944.0	943.8	943.6	943.5	943.3	944.3
160°	954.9	954.7	954.6	954.4	954.2	954.1	953.9	953.7	953.6	953.4	954.4
162.5°	965.0	964.6	964.1	963.7	963.3	963.0	962.8	962.7	962.5	962.3	963.5
165°	977.2	976.7	976.2	975.7	975.2	974.9	974.7	974.5	974.4	974.2	975.5
167.5°	986.7	986.0	985.4	984.7	984.1	983.7	983.7	983.7	983.7	983.7	985.0
170°	992.1	991.4	990.8	990.1	989.5	989.1	989.1	989.1	989.1	989.1	990.4
172.5°	995.6	994.8	994.0	993.3	992.5	992.1	992.3	992.4	992.5	992.7	994.0
175°	1000.3	999.4	998.6	997.7	996.9	996.6	996.7	996.9	997.1	997.2	998.5
177.5°	1001.4	1000.8	1000.1	999.5	998.8	998.6	998.7	998.8	999.0	999.1	1000.1
180°	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3



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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°	22.1	22.0	21.9	21.9	22.0	22.1	22.1	22.2
90°	19.2	19.8	20.5	21.0	21.3	21.6	21.9	22.3
92.5°	21.1	22.2	23.2	23.8	24.0	24.2	24.4	24.6
95°	25.3	26.5	27.7	28.3	28.3	28.3	28.3	28.3
97.5°	26.6	27.9	29.2	30.0	30.1	30.3	30.5	30.6
100°	27.2	28.5	29.8	30.6	30.7	30.9	31.0	31.2
102.5°	40.7	36.7	32.5	30.6	30.9	31.2	31.5	31.8
105°	104.3	75.0	45.8	31.4	31.7	32.0	32.4	32.7
107.5°	255.4	234.0	212.6	190.9	168.7	146.7	124.7	102.7
110°	324.3	318.8	313.4	298.8	275.2	251.6	227.9	204.4



TEST NUMBER: P332160-840

CATALOG NUMBER: S123DIW-S775D755U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	372.8	372.9	373.0	370.5	365.6	360.6	355.6	350.6
115°	429.9	431.5	433.1	434.3	434.9	435.7	436.3	437.0
117.5°	481.5	482.8	484.1	484.8	485.0	485.1	485.2	485.4
120°	515.4	516.7	518.1	518.7	518.7	518.7	518.7	518.7
122.5°	548.5	549.4	550.4	550.9	551.0	551.1	551.3	551.4
125°	595.1	595.5	595.8	596.1	596.5	596.8	597.1	597.4
127.5°	642.0	642.5	643.0	643.1	642.8	642.4	642.1	641.8
130°	670.1	670.8	671.5	671.7	671.3	671.0	670.7	670.2
132.5°	696.9	697.5	698.2	698.3	697.8	697.4	696.9	696.4
135°	737.4	737.9	738.4	738.4	737.9	737.4	736.9	736.4
137.5°	773.6	774.4	775.2	775.4	775.1	774.7	774.4	774.1
140°	796.5	797.1	797.8	798.0	797.6	797.3	797.0	796.6
142.5°	818.2	818.7	819.2	819.3	818.8	818.4	817.9	817.4
145°	848.6	848.9	849.2	849.4	849.4	849.4	849.4	849.4
147.5°	875.8	876.1	876.5	876.2	875.5	874.6	873.9	873.1
150°	892.4	892.7	893.0	893.0	892.5	892.0	891.5	891.0
152.5°	907.2	907.8	908.4	908.3	907.6	906.8	906.1	905.2
155°	927.6	928.4	929.3	929.2	928.2	927.2	926.1	925.1
157.5°	945.3	946.2	947.3	947.2	945.8	944.5	943.3	942.0
160°	955.4	956.4	957.4	957.4	956.1	955.0	953.8	952.7
162.5°	964.6	965.7	966.8	966.8	965.8	964.8	963.8	962.8
165°	976.8	978.2	979.5	979.6	978.5	977.2	976.1	974.9
167.5°	986.3	987.7	989.1	989.1	987.7	986.3	985.0	983.7
170°	991.7	993.1	994.4	994.4	993.1	991.7	990.4	989.1
172.5°	995.3	996.6	997.9	997.8	996.4	995.0	993.5	992.1
175°	999.6	1000.8	1001.9	1001.8	1000.5	999.2	997.8	996.5
177.5°	1001.2	1002.2	1003.3	1003.1	1001.8	1000.5	999.2	997.8
180°	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3

(END OF REPORT)