

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: P332218-940

Luminaire Tested: **S123DIW-S1165D755U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332218-940
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-S1165D755U940-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7019.9 lumens
Efficiency: N/A
Efficacy: 117.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

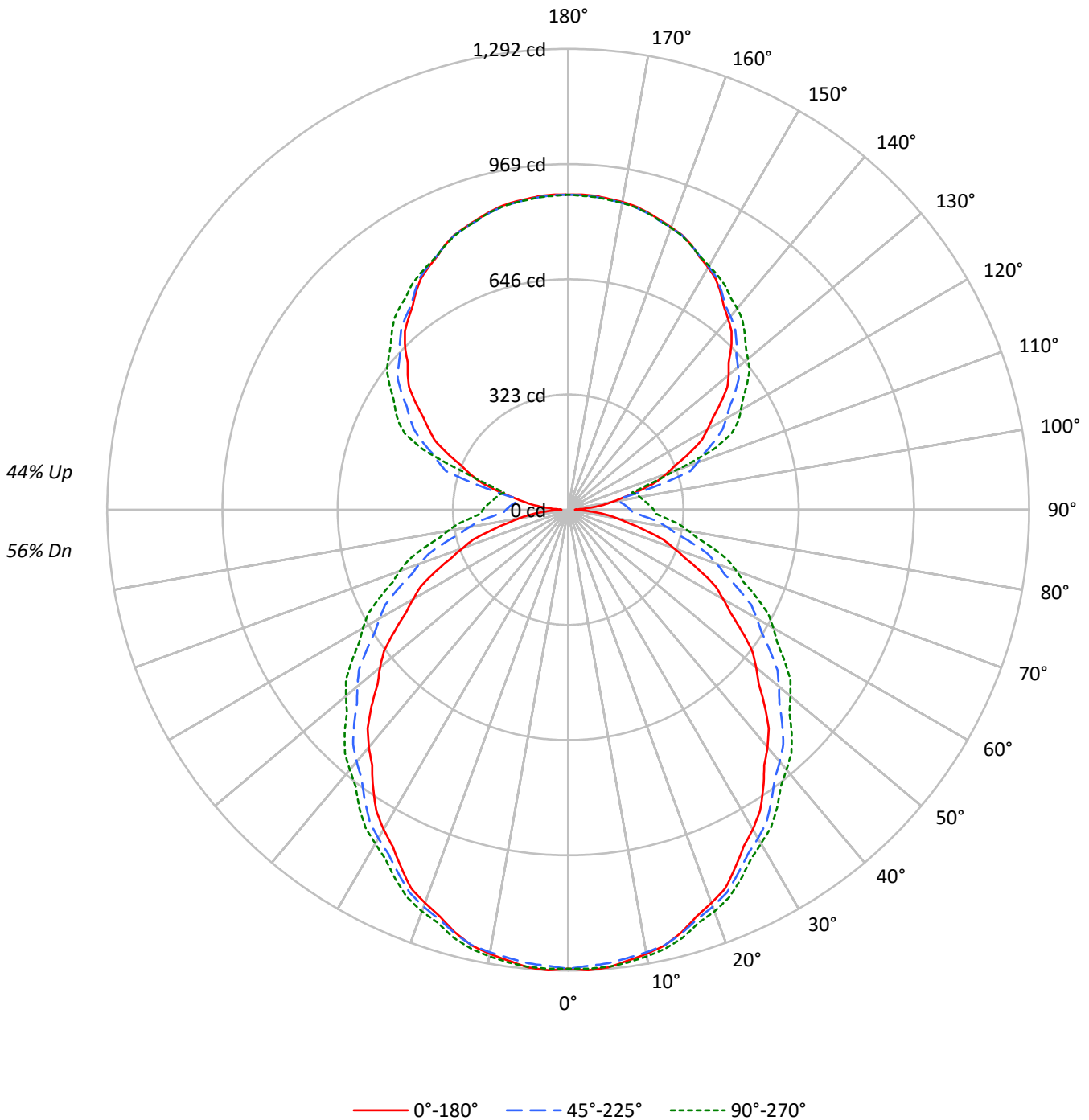
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	98	93	89	85	91	87	83	79	74	72	69	63	61	59	53	51	50	45
2	89	81	74	68	82	75	69	64	65	60	56	55	52	49	46	43	41	37
3	81	71	63	56	75	66	59	53	57	51	47	48	44	41	40	37	35	31
4	74	62	54	47	68	58	51	45	50	44	40	43	38	34	36	32	30	26
5	68	55	47	40	62	52	44	38	45	39	34	38	33	30	32	28	26	22
6	62	50	41	35	58	46	39	33	40	34	29	34	30	26	29	25	22	19
7	57	45	36	31	53	42	34	29	36	30	26	31	26	23	27	23	20	17
8	53	41	33	27	49	38	31	26	33	27	23	29	24	20	24	21	18	15
9	50	37	29	24	46	35	28	23	30	25	20	26	22	18	22	19	16	14
10	46	34	26	22	43	32	25	20	28	22	18	24	20	16	21	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13850	13850	13850
5°	13894	13501	13509
10°	13769	13190	13124
15°	13592	12837	12705
20°	13338	12435	12243
25°	13025	11969	11757
30°	12705	11553	11264
35°	12344	11111	10871
40°	12002	10709	10450
45°	11622	10323	10113
50°	11245	9942	9744
55°	10831	9553	9410
60°	10426	9156	9068
65°	10013	8733	8661
70°	9389	8257	8243
75°	8597	7713	7819
80°	7695	7181	7334
85°	6853	6811	7053



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.0	1.7
10°-20°	347.7	5.0
20°-30°	520.1	7.4
30°-40°	621.1	8.8
40°-50°	649.8	9.3
50°-60°	609.8	8.7
60°-70°	509.3	7.3
70°-80°	364.4	5.2
80°-90°	219.8	3.1
90°-100°	168.5	2.4
100°-110°	253.2	3.6
110°-120°	434.5	6.2
120°-130°	506.3	7.2
130°-140°	517.3	7.4
140°-150°	471.4	6.7
150°-160°	377.3	5.4
160°-170°	243.5	3.5
170°-180°	83.9	1.2
0°-30°	989.8	14.1
0°-40°	1610.9	22.9
0°-60°	2870.5	40.9
0°-90°	3964.0	56.5
90°-120°	856.2	12.2
90°-150°	2351.2	33.5
90°-180°	3056.0	43.5
0°-180°	7019.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1287	1287	1287	1287	1287	
5°	1288	1285	1277	1287	1287	122
15°	1226	1230	1229	1242	1242	345
25°	1107	1121	1126	1143	1144	510
35°	953	975	994	1014	1020	596
45°	779	813	848	874	886	601
55°	594	641	691	727	740	532
65°	411	466	527	568	583	406
75°	223	289	359	403	422	238
85°	69	139	213	259	275	72
90°	19	94	174	222	240	14
95°	56	86	159	205	221	61
105°	207	245	249	177	186	219
115°	374	397	451	490	505	369
125°	521	529	570	599	612	466
135°	646	650	667	693	699	498
145°	744	747	749	761	767	465
155°	818	817	818	821	817	377
165°	863	861	860	865	861	244
175°	883	880	881	885	880	84
180°	883	883	883	883	883	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1292.4	1291.6	1290.8	1290.1	1289.3	1288.0	1286.0	1284.0	1282.0	1280.1	1282.0
5°	1288.2	1287.5	1286.9	1286.3	1285.7	1284.4	1282.5	1280.7	1278.8	1276.9	1279.4
7.5°	1275.5	1275.7	1275.8	1275.9	1276.0	1275.2	1273.4	1271.6	1269.8	1267.9	1271.0
10°	1264.4	1265.0	1265.6	1266.2	1266.9	1266.3	1264.8	1263.2	1261.7	1260.1	1263.2
12.5°	1250.9	1251.7	1252.6	1253.5	1254.4	1254.3	1253.2	1252.1	1251.1	1250.0	1252.9
15°	1226.5	1227.4	1228.3	1229.3	1230.2	1230.6	1230.2	1229.9	1229.6	1229.3	1232.4
17.5°	1195.6	1197.5	1199.4	1201.2	1203.1	1204.0	1203.9	1203.7	1203.6	1203.5	1206.3
20°	1173.2	1175.1	1177.0	1178.8	1180.7	1182.0	1182.6	1183.2	1183.8	1184.5	1187.2
22.5°	1149.7	1151.6	1153.4	1155.3	1157.2	1158.5	1159.4	1160.3	1161.1	1162.0	1165.6
25°	1107.3	1110.4	1113.6	1116.7	1119.8	1121.8	1122.8	1123.6	1124.6	1125.5	1129.6
27.5°	1064.7	1068.3	1071.8	1075.4	1078.9	1081.7	1083.7	1085.7	1087.7	1089.7	1093.1
30°	1034.5	1038.5	1042.5	1046.6	1050.6	1053.9	1056.4	1058.9	1061.4	1063.9	1067.6
32.5°	1000.8	1005.3	1009.9	1014.4	1019.0	1022.9	1026.1	1029.4	1032.6	1035.8	1039.8
35°	953.1	958.1	963.1	968.1	973.1	977.6	981.7	985.7	989.7	993.8	998.4
37.5°	902.7	908.3	913.9	919.5	925.1	930.4	935.4	940.4	945.4	950.4	955.6
40°	869.1	874.7	880.3	885.8	891.4	897.4	903.7	909.8	916.1	922.3	927.6
42.5°	832.1	838.9	845.8	852.6	859.4	866.1	872.6	879.0	885.6	892.1	897.9
45°	779.4	786.8	794.2	801.7	809.2	816.9	824.7	832.4	840.3	848.0	853.9
47.5°	724.1	732.5	741.0	749.6	758.0	766.7	775.6	784.5	793.4	802.4	809.0
50°	688.2	697.0	705.7	714.3	723.1	732.3	742.0	751.6	761.3	770.9	778.1
52.5°	650.1	659.3	668.5	677.8	687.0	697.0	707.6	718.2	728.9	739.5	747.0
55°	594.3	604.6	614.8	625.2	635.4	646.1	657.4	668.6	679.8	691.1	699.5
57.5°	539.9	550.6	561.3	572.0	582.8	594.3	606.5	618.8	631.1	643.4	651.8
60°	501.8	513.0	524.2	535.5	546.6	558.7	571.4	584.2	597.0	609.8	618.5
62.5°	465.9	477.4	488.8	500.3	511.8	524.2	537.8	551.3	564.8	578.4	587.0
65°	410.7	422.8	435.0	447.1	459.3	472.3	485.9	499.6	513.4	527.0	536.4
67.5°	354.6	367.6	380.4	393.3	406.2	419.6	433.5	447.5	461.5	475.5	485.6
70°	315.4	328.8	342.1	355.5	369.0	383.2	398.1	413.0	428.0	442.9	452.9
72.5°	279.5	292.9	306.3	319.7	333.1	347.5	362.9	378.4	393.9	409.3	419.5
75°	222.8	237.6	252.2	266.8	281.4	296.5	312.1	327.7	343.2	358.8	369.1
77.5°	173.5	188.3	203.0	217.8	232.6	247.8	263.5	279.2	294.9	310.6	321.5
80°	138.8	154.0	169.3	184.6	199.8	215.5	231.8	248.0	264.1	280.4	291.0
82.5°	108.5	124.0	139.6	155.1	170.5	186.5	203.0	219.5	235.9	252.3	262.9
85°	68.7	84.3	99.9	115.4	131.0	147.0	163.5	180.0	196.5	213.0	223.6
87.5°	37.5	53.2	69.0	84.8	100.7	116.6	133.0	149.2	165.5	181.7	192.4
90°	18.9	35.6	52.3	69.0	85.8	103.0	120.8	138.6	156.3	174.2	185.3
92.5°	29.3	42.6	56.0	69.4	82.8	98.0	115.0	132.1	149.2	166.2	177.5
95°	55.5	61.6	67.8	73.9	80.2	91.7	108.5	125.4	142.2	159.1	169.8
97.5°	94.2	102.5	110.8	119.0	127.3	133.5	137.6	141.6	145.7	149.8	160.2
100°	123.5	136.4	149.3	162.2	175.0	177.3	168.9	160.4	152.0	143.6	153.8
102.5°	157.0	168.1	179.1	190.2	201.3	201.4	190.7	179.9	169.2	158.4	163.5
105°	206.8	215.8	224.9	234.0	243.1	247.7	248.0	248.3	248.5	248.8	231.8
107.5°	257.8	265.5	273.1	280.7	288.4	299.6	314.3	329.1	343.9	358.7	348.1
110°	291.9	298.6	305.4	312.2	319.0	329.4	343.5	357.5	371.6	385.7	389.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	325.5	331.1	336.8	342.4	348.1	357.8	371.3	384.9	398.4	412.0	419.9
115°	373.8	378.4	383.1	387.6	392.3	400.8	413.4	425.9	438.4	450.9	459.9
117.5°	421.7	425.1	428.5	431.9	435.2	442.6	453.7	464.9	476.1	487.3	495.9
120°	450.5	453.3	456.2	459.1	462.0	468.8	479.5	490.2	500.9	511.7	520.0
122.5°	480.9	482.9	484.7	486.6	488.5	494.6	505.0	515.3	525.6	535.9	543.7
125°	521.3	522.5	523.6	524.8	525.9	531.4	540.9	550.5	560.2	569.8	576.7
127.5°	561.7	562.6	563.4	564.3	565.1	569.6	577.8	585.9	594.1	602.4	608.9
130°	586.9	587.7	588.6	589.4	590.3	594.1	600.9	607.8	614.6	621.4	627.9
132.5°	609.9	611.0	612.2	613.2	614.3	617.6	623.0	628.5	633.9	639.4	645.7
135°	646.5	647.1	647.6	648.2	648.7	651.0	655.1	659.1	663.1	667.1	673.2
137.5°	677.7	678.6	679.5	680.3	681.2	682.7	685.0	687.2	689.5	691.7	697.3
140°	697.6	698.5	699.4	700.3	701.1	702.2	703.6	705.0	706.3	707.8	713.0
142.5°	717.0	717.6	718.3	718.9	719.5	720.1	720.8	721.4	722.0	722.6	727.3
145°	744.2	744.9	745.6	746.4	747.0	747.5	747.8	748.1	748.4	748.7	751.4
147.5°	768.4	769.0	769.7	770.3	771.1	771.5	771.9	772.1	772.4	772.7	773.7
150°	784.2	784.5	785.0	785.4	785.9	786.2	786.6	786.8	787.1	787.4	787.7
152.5°	798.3	798.5	798.7	798.9	799.2	799.3	799.5	799.7	799.9	800.0	800.5
155°	818.2	818.0	817.7	817.3	817.1	817.0	817.2	817.3	817.4	817.6	818.3
157.5°	833.7	833.7	833.7	833.7	833.7	833.6	833.4	833.2	833.1	832.9	833.8
160°	843.2	843.0	842.9	842.8	842.6	842.5	842.3	842.1	842.0	841.9	842.8
162.5°	852.1	851.8	851.3	851.0	850.6	850.3	850.2	850.1	849.9	849.7	850.8
165°	862.9	862.5	862.0	861.6	861.1	860.9	860.7	860.5	860.4	860.2	861.4
167.5°	871.3	870.7	870.1	869.5	869.0	868.6	868.6	868.6	868.6	868.6	869.8
170°	876.0	875.4	874.9	874.2	873.7	873.3	873.3	873.3	873.3	873.3	874.5
172.5°	879.1	878.4	877.7	877.1	876.4	876.0	876.2	876.3	876.4	876.6	877.7
175°	883.2	882.4	881.7	881.0	880.3	880.0	880.1	880.3	880.5	880.6	881.6
177.5°	884.2	883.7	883.1	882.5	881.9	881.7	881.8	881.9	882.1	882.2	883.1
180°	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7	1286.7
2.5°	1284.0	1286.0	1288.0	1288.9	1288.6	1288.3	1288.1	1287.9
5°	1281.9	1284.4	1286.9	1288.0	1287.7	1287.4	1287.1	1286.7
7.5°	1274.2	1277.3	1280.4	1281.8	1281.4	1281.0	1280.7	1280.3
10°	1266.3	1269.4	1272.6	1273.8	1273.2	1272.6	1271.9	1271.3
12.5°	1255.8	1258.6	1261.5	1262.6	1261.9	1261.3	1260.7	1260.1
15°	1235.5	1238.6	1241.7	1243.1	1242.9	1242.5	1242.2	1241.9
17.5°	1209.1	1211.9	1214.7	1215.8	1215.5	1215.0	1214.6	1214.2
20°	1190.0	1192.8	1195.6	1197.2	1197.5	1197.8	1198.1	1198.5
22.5°	1169.1	1172.7	1176.2	1177.9	1177.7	1177.5	1177.3	1177.1
25°	1133.6	1137.7	1141.7	1143.8	1143.8	1143.8	1143.8	1143.8
27.5°	1096.6	1100.1	1103.6	1105.5	1105.7	1106.0	1106.3	1106.5
30°	1071.4	1075.1	1078.8	1080.7	1080.7	1080.7	1080.7	1080.7
32.5°	1043.8	1047.8	1051.8	1054.2	1054.9	1055.7	1056.4	1057.1
35°	1003.2	1007.8	1012.4	1015.5	1016.7	1018.0	1019.2	1020.4
37.5°	960.9	966.3	971.5	974.6	975.7	976.7	977.7	978.7
40°	932.9	938.2	943.5	946.7	948.0	949.2	950.5	951.7
42.5°	903.7	909.5	915.3	919.0	920.7	922.5	924.2	926.0
45°	859.9	865.8	871.7	875.9	878.4	880.9	883.4	885.8
47.5°	815.6	822.3	829.0	833.3	835.2	837.1	839.1	841.0
50°	785.2	792.5	799.6	804.2	806.5	808.6	810.8	813.0
52.5°	754.4	761.8	769.2	774.3	776.9	779.6	782.3	785.0
55°	707.8	716.2	724.7	730.1	732.6	735.1	737.6	740.1
57.5°	660.3	668.8	677.3	683.0	685.9	688.8	691.8	694.6
60°	627.1	635.9	644.6	650.7	654.2	657.5	660.9	664.4
62.5°	595.8	604.5	613.2	619.2	622.3	625.5	628.7	631.9
65°	545.7	555.1	564.5	570.6	573.7	576.8	580.0	583.1
67.5°	495.9	506.1	516.3	522.7	525.4	528.0	530.6	533.2
70°	462.9	472.9	482.8	489.4	492.5	495.6	498.6	501.8
72.5°	429.7	440.0	450.1	456.8	459.9	463.1	466.2	469.3
75°	379.4	389.7	399.9	407.0	410.7	414.5	418.2	421.9
77.5°	332.3	343.1	354.0	360.8	363.7	366.6	369.4	372.3
80°	301.5	312.1	322.7	329.6	332.7	335.8	338.9	342.0
82.5°	273.5	284.1	294.6	301.5	304.6	307.7	310.9	314.0
85°	234.3	244.9	255.4	262.3	265.4	268.5	271.6	274.7
87.5°	203.1	213.8	224.5	231.5	234.7	237.8	241.0	244.2
90°	196.4	207.7	218.8	226.1	229.5	232.9	236.3	239.8
92.5°	188.8	200.0	211.3	218.5	221.5	224.5	227.6	230.6
95°	180.5	191.2	201.8	208.7	211.9	214.9	218.0	221.1
97.5°	170.7	181.1	191.6	198.5	201.7	205.0	208.2	211.5
100°	164.0	174.2	184.4	191.1	194.4	197.7	200.9	204.2
102.5°	168.7	173.9	179.1	183.3	186.7	190.1	193.5	196.9
105°	214.6	197.6	180.5	173.4	176.6	179.7	182.8	185.8
107.5°	337.5	327.0	316.4	302.7	286.1	269.3	252.6	235.9
110°	392.2	395.5	398.8	391.3	372.9	354.5	336.2	317.8



TEST NUMBER: P332218-940

CATALOG NUMBER: S123DIW-S1165D755U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	427.8	435.8	443.7	446.8	445.2	443.5	441.8	440.2
115°	468.8	477.8	486.7	492.7	495.8	498.8	501.9	505.0
117.5°	504.4	513.1	521.7	527.2	529.8	532.3	534.8	537.3
120°	528.2	536.6	544.9	550.2	552.4	554.6	556.8	558.9
122.5°	551.4	559.1	566.9	571.9	574.2	576.5	578.8	581.0
125°	583.4	590.3	597.1	601.8	604.2	606.7	609.2	611.6
127.5°	615.6	622.2	628.8	633.1	634.9	636.8	638.6	640.4
130°	634.4	640.9	647.4	651.5	653.0	654.6	656.2	657.7
132.5°	651.9	658.2	664.4	668.4	670.1	671.8	673.5	675.2
135°	679.2	685.2	691.3	694.8	696.0	697.1	698.2	699.4
137.5°	702.9	708.6	714.2	717.6	718.9	720.1	721.5	722.7
140°	718.2	723.4	728.7	732.0	733.3	734.5	735.8	737.1
142.5°	731.9	736.6	741.2	744.1	745.3	746.4	747.5	748.7
145°	754.3	757.1	759.8	761.9	763.1	764.4	765.6	766.9
147.5°	774.8	775.8	776.9	777.6	778.1	778.6	779.0	779.4
150°	788.0	788.3	788.5	788.8	789.0	789.2	789.3	789.5
152.5°	801.0	801.6	802.1	802.1	801.6	801.0	800.5	800.0
155°	819.0	819.7	820.6	820.5	819.6	818.7	817.8	816.9
157.5°	834.7	835.5	836.4	836.3	835.2	834.0	832.9	831.8
160°	843.6	844.5	845.3	845.3	844.3	843.3	842.2	841.2
162.5°	851.8	852.7	853.7	853.7	852.8	851.9	851.0	850.2
165°	862.6	863.7	864.9	865.0	864.0	862.9	861.9	860.9
167.5°	870.9	872.2	873.3	873.3	872.2	870.9	869.8	868.6
170°	875.7	876.9	878.1	878.1	876.9	875.7	874.5	873.3
172.5°	878.9	880.0	881.2	881.1	879.9	878.6	877.3	876.0
175°	882.6	883.7	884.7	884.6	883.4	882.3	881.1	879.9
177.5°	884.0	884.9	885.9	885.7	884.6	883.4	882.3	881.1
180°	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2

(END OF REPORT)