

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: P332220-930

Luminaire Tested: **S123DIW-S1165D755U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332220-930
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-S1165D755U930-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 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: 6343.2 lumens
Efficiency: N/A
Efficacy: 106.1 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

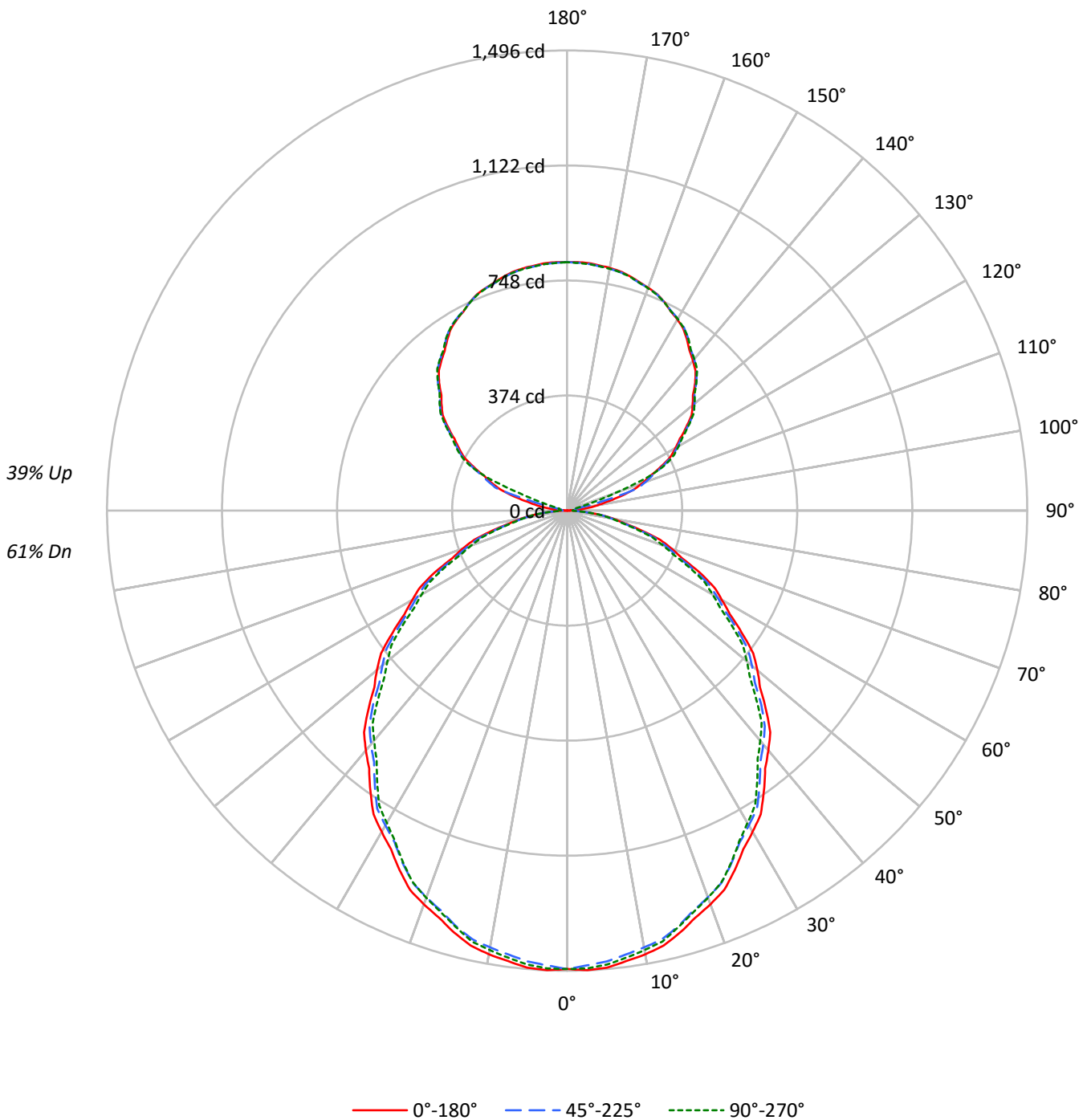
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	77	77	77	66	66	66	61
1	100	96	92	88	94	90	86	83	78	76	73	68	66	64	59	57	56	51
2	91	84	77	72	85	78	73	68	69	64	61	60	57	54	52	49	47	43
3	83	73	66	60	78	69	62	57	61	55	51	53	49	45	46	43	40	36
4	76	65	57	51	71	61	54	48	54	48	44	47	43	39	41	37	34	31
5	70	58	50	44	65	55	47	42	48	42	38	42	38	34	37	33	30	27
6	64	52	44	38	60	49	42	36	44	37	33	38	33	30	33	29	26	24
7	60	47	39	33	56	44	37	32	39	33	29	35	30	26	30	27	24	21
8	55	43	35	29	52	41	33	28	36	30	26	32	27	23	28	24	21	19
9	52	39	32	26	48	37	30	25	33	27	23	29	25	21	26	22	19	17
10	48	36	29	24	45	34	27	23	31	25	21	27	22	19	24	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16043	16043	16043
5°	16119	15896	16008
10°	16010	15759	15856
15°	15824	15581	15610
20°	15605	15326	15340
25°	15311	15023	14992
30°	14989	14686	14574
35°	14651	14331	14146
40°	14299	13939	13722
45°	13910	13577	13247
50°	13520	13134	12769
55°	13011	12675	12288
60°	12499	12140	11752
65°	12045	11556	11196
70°	11374	10889	10408
75°	10393	10019	9590
80°	9372	8976	8901
85°	8225	7916	7608



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.4	2.2
10°-20°	396.4	6.2
20°-30°	585.6	9.2
30°-40°	684.0	10.8
40°-50°	687.7	10.8
50°-60°	604.1	9.5
60°-70°	450.0	7.1
70°-80°	256.4	4.0
80°-90°	75.9	1.2
90°-100°	29.4	0.5
100°-110°	139.9	2.2
110°-120°	336.1	5.3
120°-130°	428.0	6.7
130°-140°	457.3	7.2
140°-150°	427.6	6.7
150°-160°	344.9	5.4
160°-170°	222.6	3.5
170°-180°	76.7	1.2
0°-30°	1122.4	17.7
0°-40°	1806.5	28.5
0°-60°	3098.3	48.8
0°-90°	3880.6	61.2
90°-120°	505.4	8.0
90°-150°	1818.3	28.7
90°-180°	2463.0	38.8
0°-180°	6343.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1490	1490	1490	1490	1490	
5°	1492	1485	1471	1483	1482	141
15°	1420	1414	1398	1407	1401	400
25°	1289	1281	1265	1266	1262	594
35°	1115	1107	1091	1083	1076	697
45°	914	908	892	877	870	705
55°	693	691	675	662	655	621
65°	473	466	454	444	440	466
75°	250	245	241	235	231	267
85°	67	64	64	62	62	73
90°	1	7	14	17	18	5
95°	37	14	19	23	23	45
105°	179	182	131	31	26	190
115°	335	339	344	350	353	331
125°	473	477	480	481	482	422
135°	589	592	594	596	594	453
145°	679	683	684	686	686	425
155°	748	747	748	750	747	345
165°	789	787	786	791	787	223
175°	808	805	805	809	804	77
180°	808	808	808	808	808	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4
2.5°	1495.6	1494.7	1493.8	1492.9	1491.9	1490.2	1487.8	1485.2	1482.7	1480.2	1482.5
5°	1491.8	1490.4	1488.9	1487.5	1486.0	1483.8	1480.7	1477.5	1474.4	1471.2	1474.1
7.5°	1477.2	1475.7	1474.3	1472.8	1471.5	1469.1	1465.8	1462.6	1459.4	1456.1	1458.7
10°	1464.8	1463.4	1462.0	1460.5	1459.1	1456.6	1452.9	1449.2	1445.4	1441.8	1444.3
12.5°	1448.5	1447.2	1446.0	1444.9	1443.7	1441.3	1437.9	1434.4	1430.9	1427.4	1429.3
15°	1420.0	1418.9	1417.7	1416.6	1415.4	1413.0	1409.3	1405.6	1401.9	1398.2	1400.4
17.5°	1386.9	1385.4	1384.0	1382.5	1381.0	1378.4	1374.7	1371.0	1367.3	1363.6	1365.2
20°	1362.3	1360.6	1358.9	1357.1	1355.5	1352.7	1349.1	1345.4	1341.7	1338.0	1339.1
22.5°	1334.6	1332.9	1331.2	1329.5	1327.8	1325.1	1321.4	1317.7	1314.0	1310.3	1311.2
25°	1289.2	1287.5	1285.8	1284.1	1282.5	1279.7	1276.0	1272.4	1268.6	1264.9	1265.2
27.5°	1240.8	1239.2	1237.5	1235.8	1234.2	1231.4	1227.4	1223.4	1219.4	1215.4	1215.7
30°	1206.0	1204.5	1203.1	1201.7	1200.3	1197.6	1193.6	1189.6	1185.6	1181.6	1181.6
32.5°	1171.1	1169.2	1167.3	1165.5	1163.6	1161.1	1158.1	1155.0	1151.9	1148.8	1147.2
35°	1115.0	1113.3	1111.6	1109.9	1108.2	1105.5	1101.7	1098.0	1094.3	1090.6	1088.9
37.5°	1057.5	1055.4	1053.2	1051.1	1048.9	1045.9	1042.2	1038.4	1034.7	1030.9	1028.8
40°	1017.6	1015.9	1014.2	1012.4	1010.7	1007.9	1003.9	999.9	995.9	992.0	989.7
42.5°	977.5	975.7	973.7	971.8	969.8	966.9	962.9	958.9	954.9	951.0	948.7
45°	913.8	912.6	911.5	910.4	909.2	906.8	903.1	899.4	895.7	891.9	888.6
47.5°	850.4	848.8	847.2	845.5	843.8	841.3	837.8	834.3	830.9	827.4	824.0
50°	807.4	806.0	804.5	803.2	801.7	799.2	795.4	791.7	788.0	784.3	781.2
52.5°	762.3	761.3	760.3	759.4	758.4	755.9	752.0	748.1	744.2	740.2	737.5
55°	693.3	693.1	692.8	692.5	692.2	690.2	686.5	682.8	679.1	675.4	672.3
57.5°	627.7	626.7	625.7	624.8	623.9	621.9	618.9	616.0	613.0	610.0	607.2
60°	580.6	580.2	580.0	579.7	579.4	577.6	574.1	570.7	567.3	563.9	561.3
62.5°	538.5	537.8	537.0	536.3	535.6	533.5	530.0	526.6	523.3	519.8	517.2
65°	472.9	471.5	470.0	468.6	467.2	465.0	462.2	459.3	456.5	453.7	451.4
67.5°	403.4	402.2	401.0	399.7	398.4	396.7	394.5	392.4	390.2	388.1	386.0
70°	361.4	359.7	358.0	356.3	354.6	352.9	351.1	349.4	347.7	346.0	344.1
72.5°	317.3	316.1	314.8	313.6	312.3	310.7	308.8	306.8	304.9	303.0	301.2
75°	249.9	248.7	247.6	246.5	245.3	244.3	243.5	242.6	241.8	240.9	239.5
77.5°	190.2	189.6	188.9	188.3	187.7	186.9	185.8	184.8	183.8	182.8	181.8
80°	151.2	150.3	149.5	148.6	147.8	147.1	146.5	145.9	145.4	144.8	144.6
82.5°	113.3	113.1	112.9	112.8	112.6	112.4	112.3	112.3	112.1	112.0	111.5
85°	66.6	66.0	65.5	64.9	64.3	64.1	64.1	64.1	64.1	64.1	63.5
87.5°	26.7	26.3	25.9	25.5	25.1	24.9	25.1	25.2	25.4	25.4	25.3
90°	0.6	2.0	3.3	4.6	6.0	7.5	9.2	10.9	12.6	14.4	14.9
92.5°	11.2	10.8	10.4	10.0	9.7	10.1	11.4	12.7	14.0	15.3	16.2
95°	36.6	31.1	25.7	20.2	14.8	12.7	14.2	15.7	17.1	18.6	19.6
97.5°	73.5	71.1	68.6	66.2	63.8	57.7	48.1	38.5	28.9	19.3	20.4
100°	101.4	104.0	106.7	109.4	112.0	103.0	82.2	61.4	40.6	19.8	20.9
102.5°	133.1	135.0	136.9	138.8	140.7	130.4	107.6	84.9	62.2	39.5	36.2
105°	178.8	180.3	181.7	183.2	184.7	179.4	167.4	155.4	143.4	131.4	107.8
107.5°	227.0	228.2	229.3	230.6	231.7	233.3	235.1	237.0	239.0	240.8	223.5
110°	259.2	260.2	261.3	262.4	263.4	264.7	266.2	267.7	269.1	270.6	266.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	289.9	290.8	291.8	292.8	293.8	295.0	296.4	297.9	299.4	300.8	300.9
115°	335.3	336.1	337.0	337.8	338.6	339.6	340.8	341.9	343.2	344.4	345.7
117.5°	379.4	380.4	381.4	382.4	383.4	384.2	384.7	385.4	386.0	386.6	387.7
120°	406.8	408.0	409.2	410.3	411.6	412.4	412.8	413.2	413.6	413.9	415.1
122.5°	434.6	435.6	436.6	437.6	438.5	439.3	439.8	440.3	440.8	441.3	442.1
125°	472.8	473.9	474.9	476.0	477.0	477.8	478.3	478.9	479.4	480.0	480.2
127.5°	509.7	510.8	511.8	512.9	514.0	514.9	515.5	516.1	516.7	517.4	517.8
130°	532.7	533.9	534.9	536.0	537.0	537.9	538.3	538.9	539.4	540.0	540.5
132.5°	554.8	555.9	556.9	558.0	559.1	559.9	560.3	560.7	561.1	561.6	562.1
135°	588.6	589.4	590.1	590.9	591.7	592.4	593.0	593.5	594.0	594.5	594.9
137.5°	617.3	618.3	619.4	620.4	621.4	622.1	622.3	622.6	623.0	623.2	623.9
140°	636.5	637.3	638.1	639.0	639.8	640.3	640.7	641.2	641.6	642.0	642.5
142.5°	654.3	655.1	655.9	656.7	657.5	658.1	658.5	658.9	659.3	659.7	660.1
145°	679.1	680.0	681.0	681.9	682.9	683.5	683.7	684.0	684.3	684.5	684.8
147.5°	702.5	703.1	703.8	704.3	705.0	705.4	705.7	706.0	706.2	706.5	706.8
150°	717.0	717.3	717.7	718.1	718.5	718.8	719.2	719.4	719.7	719.9	720.2
152.5°	729.9	730.1	730.3	730.4	730.7	730.8	731.0	731.2	731.3	731.5	731.9
155°	748.1	747.9	747.6	747.3	747.1	747.0	747.1	747.3	747.4	747.5	748.2
157.5°	762.3	762.3	762.2	762.2	762.2	762.1	762.0	761.8	761.7	761.6	762.4
160°	770.9	770.8	770.7	770.5	770.4	770.3	770.1	770.0	769.9	769.7	770.5
162.5°	779.1	778.8	778.4	778.0	777.7	777.5	777.3	777.2	777.1	776.9	777.9
165°	789.0	788.6	788.1	787.7	787.3	787.1	786.9	786.8	786.7	786.5	787.6
167.5°	796.6	796.1	795.6	795.0	794.5	794.2	794.2	794.2	794.2	794.2	795.2
170°	801.0	800.4	799.9	799.3	798.8	798.5	798.5	798.5	798.5	798.5	799.6
172.5°	803.8	803.2	802.5	801.9	801.3	801.0	801.1	801.2	801.3	801.4	802.5
175°	807.6	806.8	806.2	805.5	804.9	804.6	804.7	804.9	805.0	805.1	806.1
177.5°	808.5	808.0	807.4	806.9	806.3	806.2	806.2	806.3	806.5	806.6	807.4
180°	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4
2.5°	1484.7	1487.0	1489.3	1490.4	1490.1	1489.9	1489.6	1489.5
5°	1476.9	1479.8	1482.6	1483.8	1483.2	1482.6	1482.1	1481.5
7.5°	1461.3	1463.8	1466.4	1467.5	1467.1	1466.8	1466.5	1466.2
10°	1446.9	1449.4	1452.0	1453.0	1452.5	1451.9	1451.3	1450.7
12.5°	1431.2	1433.1	1434.9	1435.7	1435.3	1435.0	1434.7	1434.4
15°	1402.7	1405.0	1407.3	1407.6	1405.9	1404.2	1402.5	1400.8
17.5°	1366.8	1368.4	1369.9	1370.4	1369.9	1369.2	1368.6	1368.0
20°	1340.3	1341.4	1342.6	1342.6	1341.8	1340.9	1340.1	1339.2
22.5°	1312.1	1313.0	1313.9	1313.9	1312.8	1311.7	1310.6	1309.5
25°	1265.5	1265.8	1266.1	1265.8	1264.9	1264.0	1263.2	1262.3
27.5°	1215.9	1216.1	1216.3	1215.9	1214.9	1213.7	1212.7	1211.6
30°	1181.6	1181.6	1181.6	1180.6	1178.6	1176.6	1174.6	1172.6
32.5°	1145.6	1144.0	1142.4	1141.1	1140.0	1138.9	1137.8	1136.8
35°	1087.2	1085.5	1083.8	1082.2	1080.8	1079.4	1077.9	1076.5
37.5°	1026.8	1024.7	1022.7	1021.2	1020.3	1019.4	1018.5	1017.6
40°	987.4	985.1	982.8	981.1	980.0	978.8	977.7	976.6
42.5°	946.4	944.1	941.8	940.1	939.0	937.8	936.7	935.6
45°	885.2	881.7	878.3	875.9	874.5	873.0	871.6	870.2
47.5°	820.7	817.3	813.9	811.6	810.4	809.1	807.9	806.7
50°	778.0	774.9	771.8	769.4	767.7	766.0	764.3	762.5
52.5°	734.9	732.2	729.5	727.3	725.6	723.9	722.2	720.5
55°	669.1	666.0	662.8	660.6	659.2	657.7	656.3	654.8
57.5°	604.5	601.7	598.8	596.6	595.0	593.4	591.7	590.0
60°	558.8	556.2	553.7	551.6	550.2	548.8	547.4	545.9
62.5°	514.7	512.1	509.6	507.8	506.8	505.8	504.9	503.9
65°	449.1	446.9	444.6	443.0	442.1	441.3	440.4	439.6
67.5°	384.1	382.0	380.1	378.5	377.3	376.1	374.9	373.7
70°	342.0	340.1	338.0	336.3	334.9	333.5	332.1	330.7
72.5°	299.5	297.7	295.9	294.6	293.9	293.2	292.4	291.7
75°	238.1	236.7	235.2	234.1	233.3	232.4	231.5	230.6
77.5°	180.8	179.9	178.9	178.4	178.4	178.4	178.4	178.4
80°	144.2	144.0	143.7	143.6	143.6	143.6	143.6	143.6
82.5°	111.0	110.5	110.0	109.6	109.3	109.2	108.9	108.7
85°	62.9	62.4	61.8	61.6	61.6	61.6	61.6	61.6
87.5°	25.2	25.1	24.9	24.9	24.9	25.0	25.1	25.1
90°	15.5	16.0	16.6	17.0	17.2	17.4	17.7	18.0
92.5°	17.0	17.9	18.8	19.2	19.4	19.6	19.7	19.9
95°	20.5	21.4	22.3	22.8	22.8	22.8	22.8	22.8
97.5°	21.4	22.5	23.6	24.2	24.3	24.5	24.6	24.7
100°	21.9	23.0	24.1	24.7	24.8	24.9	25.0	25.2
102.5°	32.9	29.6	26.3	24.7	24.9	25.2	25.4	25.7
105°	84.2	60.6	37.0	25.4	25.6	25.8	26.2	26.4
107.5°	206.2	188.9	171.6	154.1	136.2	118.5	100.7	82.9
110°	261.8	257.4	253.0	241.2	222.2	203.1	184.0	165.0



TEST NUMBER: P332220-930

CATALOG NUMBER: S123DIW-S1165D755U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	301.0	301.1	301.2	299.1	295.1	291.1	287.1	283.1
115°	347.1	348.4	349.7	350.7	351.1	351.7	352.2	352.8
117.5°	388.7	389.8	390.9	391.4	391.6	391.7	391.8	391.9
120°	416.1	417.2	418.2	418.7	418.7	418.7	418.7	418.7
122.5°	442.8	443.5	444.3	444.7	444.8	444.9	445.1	445.2
125°	480.5	480.8	481.0	481.3	481.6	481.8	482.1	482.3
127.5°	518.3	518.7	519.1	519.2	518.9	518.6	518.4	518.1
130°	541.0	541.5	542.1	542.3	541.9	541.7	541.4	541.1
132.5°	562.6	563.1	563.7	563.8	563.4	563.0	562.6	562.2
135°	595.3	595.7	596.1	596.1	595.7	595.3	594.9	594.5
137.5°	624.5	625.2	625.8	626.0	625.7	625.4	625.2	624.9
140°	643.0	643.5	644.1	644.2	643.9	643.7	643.4	643.1
142.5°	660.6	661.0	661.4	661.5	661.0	660.7	660.3	659.9
145°	685.1	685.3	685.6	685.7	685.7	685.7	685.7	685.7
147.5°	707.0	707.3	707.6	707.4	706.8	706.1	705.6	704.9
150°	720.5	720.7	721.0	721.0	720.6	720.2	719.7	719.3
152.5°	732.4	732.9	733.4	733.3	732.7	732.1	731.5	730.8
155°	748.9	749.5	750.2	750.2	749.3	748.5	747.7	746.9
157.5°	763.2	763.9	764.8	764.7	763.6	762.5	761.6	760.5
160°	771.4	772.2	772.9	772.9	771.9	771.0	770.1	769.2
162.5°	778.8	779.7	780.6	780.6	779.8	778.9	778.1	777.3
165°	788.6	789.7	790.8	790.8	789.9	789.0	788.1	787.1
167.5°	796.3	797.4	798.5	798.5	797.4	796.3	795.2	794.2
170°	800.6	801.8	802.8	802.8	801.8	800.6	799.6	798.5
172.5°	803.6	804.6	805.7	805.6	804.5	803.3	802.1	801.0
175°	807.0	808.0	808.9	808.8	807.7	806.7	805.6	804.5
177.5°	808.3	809.1	810.0	809.8	808.8	807.7	806.7	805.6
180°	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6

(END OF REPORT)