

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: P332213

Luminaire Tested: **S123DIW-S1165D460U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332213
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1165D460U835-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6449.2 lumens
Efficiency: N/A
Efficacy: 123.1 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: Semi-Direct

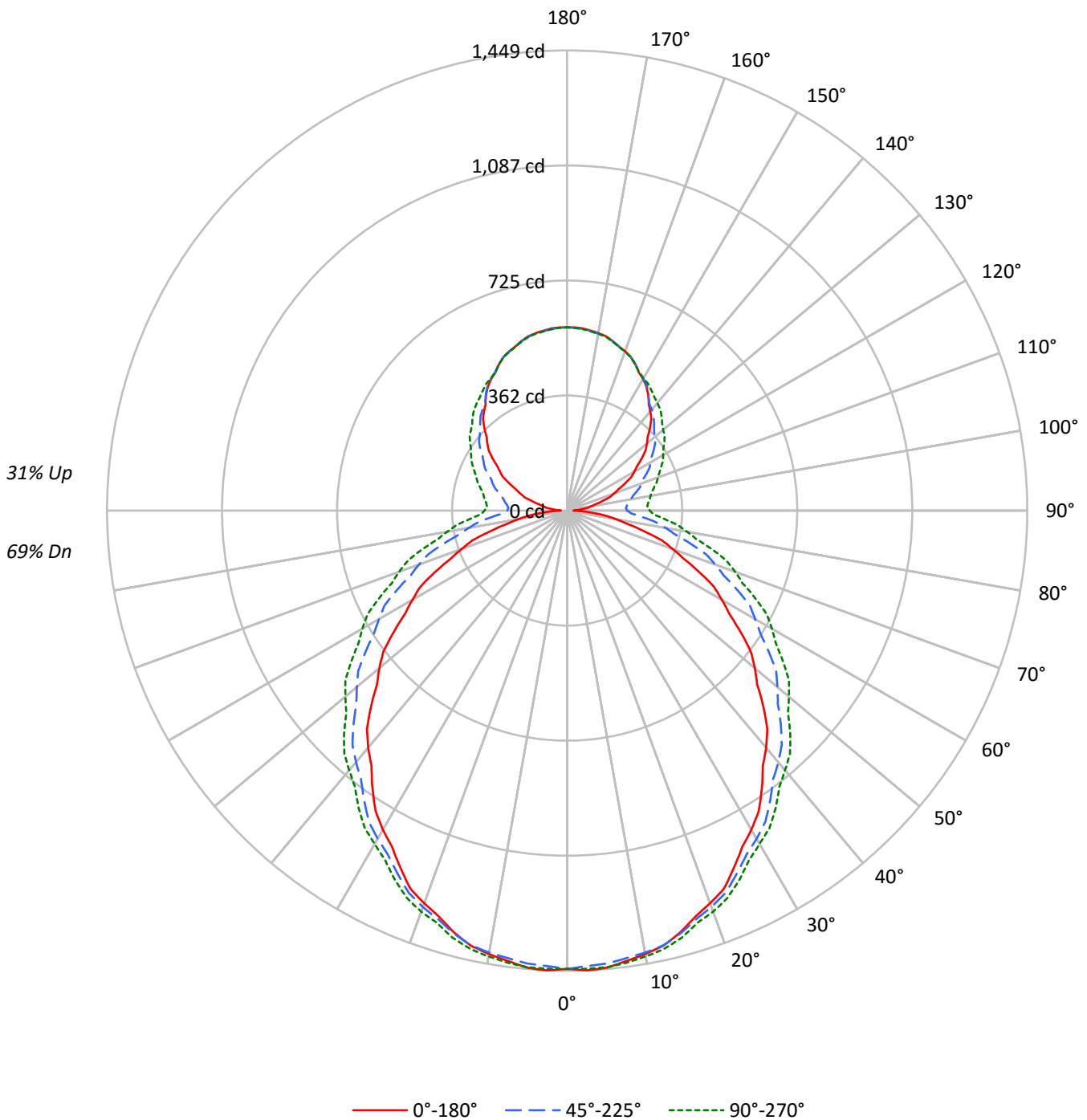
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332213

CATALOG NUMBER: S123DIW-S1165D460U835-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P332213

CATALOG NUMBER: S123DIW-S1165D460U835-4F0-1E-UDD-D1

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	112	112	112	112	105	105	105	105	94	94	94	83	83	83	73	73	73	69
1	101	95	91	87	95	90	86	82	80	77	74	71	69	66	63	61	59	55
2	91	83	76	70	85	78	72	67	70	65	60	62	58	54	54	51	49	45
3	83	72	64	58	78	68	61	55	61	55	50	54	49	45	48	44	41	37
4	76	64	55	48	71	60	52	46	54	47	42	48	43	39	42	38	35	32
5	69	57	48	41	65	54	46	40	48	42	36	43	38	33	38	34	30	27
6	64	51	42	36	60	48	40	34	43	37	32	39	33	29	34	30	26	24
7	59	46	37	31	55	44	36	30	39	33	28	35	30	26	31	27	23	21
8	55	42	33	28	52	40	32	27	36	29	25	32	27	23	29	24	21	19
9	51	38	30	25	48	36	29	24	33	27	22	30	24	21	27	22	19	17
10	48	35	27	22	45	33	26	22	30	24	20	27	22	19	25	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15532	15532	15532
5°	15581	15141	15150
10°	15441	14792	14718
15°	15242	14397	14247
20°	14958	13944	13729
25°	14607	13423	13185
30°	14248	12956	12632
35°	13844	12460	12191
40°	13459	12010	11719
45°	13033	11577	11342
50°	12611	11149	10926
55°	12146	10713	10553
60°	11692	10267	10169
65°	11230	9793	9712
70°	10529	9260	9244
75°	9643	8650	8768
80°	8626	8052	8224
85°	7681	7639	7911



TEST NUMBER: P332213

CATALOG NUMBER: S123DIW-S1165D460U835-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.8	2.1
10°-20°	390.0	6.0
20°-30°	583.2	9.0
30°-40°	696.5	10.8
40°-50°	728.7	11.3
50°-60°	683.9	10.6
60°-70°	571.2	8.9
70°-80°	408.7	6.3
80°-90°	245.4	3.8
90°-100°	190.5	3.0
100°-110°	224.9	3.5
110°-120°	266.4	4.1
120°-130°	294.5	4.6
130°-140°	302.1	4.7
140°-150°	282.1	4.4
150°-160°	234.1	3.6
160°-170°	155.8	2.4
170°-180°	54.6	0.8
0°-30°	1110.0	17.2
0°-40°	1806.5	28.0
0°-60°	3219.1	49.9
0°-90°	4444.3	68.9
90°-120°	681.7	10.6
90°-150°	1560.5	24.2
90°-180°	2005.0	31.1
0°-180°	6449.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1443	1443	1443	1443	1443	
5°	1445	1441	1432	1444	1443	137
15°	1375	1380	1379	1393	1393	387
25°	1242	1257	1262	1282	1283	572
35°	1069	1094	1114	1137	1144	668
45°	874	912	951	980	993	674
55°	666	719	775	816	830	597
65°	461	522	591	636	654	455
75°	250	324	402	452	473	267
85°	77	156	239	290	308	81
90°	21	103	188	242	260	16
95°	44	109	189	238	255	43
105°	114	155	225	267	284	122
115°	200	223	276	313	327	199
125°	287	290	333	363	373	256
135°	369	371	387	412	420	284
145°	445	445	446	458	462	278
155°	508	508	508	510	507	234
165°	553	552	552	554	552	156
175°	576	574	574	576	573	55
180°	577	577	577	577	577	



TEST NUMBER: P332213

CATALOG NUMBER: S123DIW-S1165D460U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1449.3	1448.5	1447.6	1446.8	1445.9	1444.4	1442.2	1439.9	1437.7	1435.5	1437.7
5°	1444.6	1443.9	1443.2	1442.5	1441.8	1440.4	1438.3	1436.2	1434.1	1432.0	1434.8
7.5°	1430.4	1430.6	1430.7	1430.9	1431.0	1430.1	1428.0	1426.0	1424.0	1421.9	1425.4
10°	1417.9	1418.6	1419.3	1420.0	1420.7	1420.1	1418.4	1416.6	1414.9	1413.1	1416.6
12.5°	1402.8	1403.7	1404.7	1405.7	1406.7	1406.6	1405.4	1404.2	1403.0	1401.8	1405.0
15°	1375.4	1376.5	1377.5	1378.6	1379.6	1380.0	1379.6	1379.3	1378.9	1378.6	1382.1
17.5°	1340.8	1342.9	1345.0	1347.1	1349.2	1350.2	1350.1	1349.9	1349.8	1349.6	1352.8
20°	1315.7	1317.8	1319.9	1322.0	1324.1	1325.5	1326.2	1326.9	1327.6	1328.3	1331.4
22.5°	1289.3	1291.4	1293.5	1295.6	1297.7	1299.2	1300.2	1301.2	1302.1	1303.1	1307.1
25°	1241.8	1245.3	1248.8	1252.3	1255.8	1258.0	1259.1	1260.1	1261.2	1262.2	1266.8
27.5°	1194.0	1198.0	1202.0	1206.0	1209.9	1213.1	1215.3	1217.5	1219.8	1222.0	1225.9
30°	1160.1	1164.6	1169.1	1173.7	1178.2	1181.9	1184.7	1187.5	1190.3	1193.1	1197.3
32.5°	1122.3	1127.4	1132.5	1137.6	1142.7	1147.1	1150.7	1154.4	1158.0	1161.6	1166.1
35°	1068.9	1074.5	1080.1	1085.7	1091.3	1096.3	1100.9	1105.4	1109.9	1114.5	1119.7
37.5°	1012.3	1018.6	1024.9	1031.2	1037.5	1043.4	1049.0	1054.6	1060.2	1065.8	1071.7
40°	974.6	980.9	987.2	993.4	999.7	1006.4	1013.4	1020.3	1027.3	1034.3	1040.3
42.5°	933.1	940.8	948.5	956.1	963.8	971.3	978.6	985.8	993.1	1000.4	1006.9
45°	874.0	882.4	890.7	899.1	907.5	916.1	924.8	933.5	942.3	951.0	957.6
47.5°	812.0	821.5	831.0	840.6	850.1	859.8	869.8	879.8	889.8	899.8	907.2
50°	771.8	781.6	791.4	801.1	810.9	821.2	832.1	842.9	853.7	864.5	872.6
52.5°	729.1	739.4	749.7	760.1	770.4	781.6	793.5	805.4	817.4	829.3	837.7
55°	666.5	678.0	689.5	701.1	712.6	724.6	737.2	749.8	762.4	775.0	784.4
57.5°	605.5	617.5	629.5	641.5	653.6	666.5	680.2	694.0	707.7	721.5	731.0
60°	562.7	575.3	587.9	600.5	613.0	626.5	640.8	655.1	669.5	683.8	693.6
62.5°	522.5	535.4	548.2	561.1	573.9	587.9	603.1	618.2	633.4	648.6	658.3
65°	460.6	474.2	487.8	501.4	515.1	529.6	544.9	560.3	575.7	591.0	601.5
67.5°	397.7	412.2	426.6	441.1	455.5	470.6	486.2	501.9	517.5	533.2	544.6
70°	353.7	368.7	383.7	398.7	413.8	429.7	446.4	463.2	480.0	496.7	507.9
72.5°	313.4	328.5	343.5	358.5	373.5	389.7	407.0	424.3	441.7	459.0	470.5
75°	249.9	266.4	282.8	299.2	315.6	332.5	350.0	367.5	384.9	402.4	413.9
77.5°	194.6	211.2	227.7	244.3	260.8	277.9	295.5	313.1	330.7	348.3	360.5
80°	155.6	172.7	189.9	207.0	224.1	241.7	259.9	278.1	296.2	314.4	326.3
82.5°	121.7	139.1	156.5	173.9	191.2	209.2	227.6	246.1	264.5	282.9	294.8
85°	77.0	94.5	112.0	129.4	146.9	164.9	183.4	201.9	220.4	238.9	250.8
87.5°	41.9	59.5	77.1	94.7	112.3	130.1	148.2	166.3	184.4	202.4	214.4
90°	20.9	39.0	57.1	75.3	93.4	112.0	131.1	150.3	169.4	188.5	200.8
92.5°	30.1	46.3	62.4	78.5	94.6	111.8	130.1	148.4	166.7	185.0	196.9
95°	44.0	58.4	72.7	87.0	101.3	117.5	135.4	153.3	171.2	189.2	200.4
97.5°	62.9	75.7	88.5	101.4	114.2	129.1	146.0	162.9	179.8	196.8	207.7
100°	75.8	87.6	99.3	111.1	122.9	137.1	153.7	170.2	186.8	203.4	213.8
102.5°	90.8	101.3	111.7	122.1	132.5	146.0	162.4	178.9	195.3	211.8	221.9
105°	114.5	123.1	131.7	140.3	148.9	161.1	177.1	193.0	208.9	224.8	234.6
107.5°	140.6	147.8	155.1	162.3	169.6	180.5	195.1	209.7	224.3	238.9	248.6
110°	156.7	163.2	169.7	176.2	182.7	193.0	207.2	221.3	235.5	249.7	259.2



TEST NUMBER: P332213

CATALOG NUMBER: S123DIW-S1165D460U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	174.8	180.1	185.4	190.7	196.0	205.4	218.8	232.3	245.7	259.2	268.5
115°	200.5	205.0	209.4	213.9	218.4	226.9	239.2	251.6	264.0	276.4	284.8
117.5°	227.5	230.3	233.1	235.9	238.7	245.8	257.4	268.9	280.5	292.0	300.3
120°	243.3	245.6	248.0	250.3	252.7	259.4	270.4	281.4	292.5	303.5	311.4
122.5°	261.1	262.4	263.8	265.1	266.5	272.5	283.2	293.9	304.6	315.3	322.8
125°	286.6	286.9	287.2	287.5	287.8	292.9	302.8	312.8	322.7	332.6	339.6
127.5°	311.6	311.9	312.2	312.5	312.8	317.0	325.2	333.3	341.5	349.7	356.0
130°	328.3	328.7	329.2	329.7	330.1	333.7	340.4	347.0	353.7	360.4	366.6
132.5°	343.7	344.4	345.2	345.9	346.6	349.7	355.1	360.4	365.8	371.2	377.0
135°	368.9	369.1	369.4	369.6	369.9	371.9	375.6	379.4	383.1	386.8	392.7
137.5°	392.1	392.3	392.6	392.8	393.0	394.3	396.8	399.2	401.6	404.0	409.1
140°	407.2	407.7	408.2	408.7	409.2	410.0	411.2	412.3	413.4	414.6	419.7
142.5°	422.0	422.3	422.5	422.7	422.9	423.2	423.6	424.0	424.4	424.8	429.4
145°	445.2	445.1	444.9	444.8	444.6	444.7	445.0	445.3	445.6	445.9	448.6
147.5°	464.0	464.3	464.7	465.0	465.4	465.7	466.0	466.3	466.6	466.9	467.7
150°	478.1	478.3	478.5	478.7	478.9	479.1	479.3	479.5	479.7	479.9	479.9
152.5°	489.7	490.0	490.3	490.5	490.8	491.0	491.1	491.3	491.4	491.5	491.7
155°	508.0	508.0	508.0	508.0	508.0	508.1	508.2	508.3	508.4	508.5	508.9
157.5°	523.6	523.5	523.4	523.2	523.1	523.1	523.2	523.3	523.3	523.4	523.8
160°	533.4	533.2	533.0	532.8	532.6	532.5	532.5	532.5	532.5	532.5	533.0
162.5°	542.1	541.8	541.5	541.2	541.0	540.9	540.9	541.0	541.1	541.2	541.7
165°	553.3	553.0	552.7	552.4	552.1	552.0	552.0	552.0	552.0	552.0	552.6
167.5°	562.3	561.9	561.5	561.1	560.7	560.5	560.6	560.7	560.8	560.8	561.5
170°	567.4	567.0	566.6	566.2	565.8	565.6	565.6	565.6	565.6	565.6	566.3
172.5°	571.4	571.0	570.6	570.2	569.7	569.5	569.5	569.5	569.5	569.5	570.2
175°	575.5	575.1	574.7	574.3	573.9	573.7	573.7	573.7	573.7	573.7	574.3
177.5°	577.3	576.9	576.6	576.3	576.0	575.8	575.8	575.8	575.8	575.8	576.3
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9



TEST NUMBER: P332213

CATALOG NUMBER: S123DIW-S1165D460U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1439.9	1442.2	1444.4	1445.4	1445.1	1444.8	1444.5	1444.3
5°	1437.6	1440.4	1443.2	1444.4	1444.1	1443.7	1443.4	1443.0
7.5°	1428.9	1432.4	1435.9	1437.5	1437.0	1436.6	1436.2	1435.8
10°	1420.1	1423.6	1427.1	1428.5	1427.8	1427.1	1426.4	1425.7
12.5°	1408.3	1411.5	1414.7	1415.9	1415.2	1414.5	1413.8	1413.1
15°	1385.5	1389.0	1392.5	1394.1	1393.8	1393.4	1393.1	1392.7
17.5°	1355.9	1359.1	1362.2	1363.5	1363.1	1362.6	1362.1	1361.6
20°	1334.5	1337.7	1340.8	1342.6	1342.9	1343.3	1343.6	1344.0
22.5°	1311.1	1315.1	1319.0	1320.9	1320.7	1320.5	1320.3	1320.1
25°	1271.3	1275.9	1280.4	1282.7	1282.7	1282.7	1282.7	1282.7
27.5°	1229.8	1233.7	1237.6	1239.7	1240.0	1240.3	1240.6	1240.9
30°	1201.5	1205.7	1209.8	1211.9	1211.9	1211.9	1211.9	1211.9
32.5°	1170.6	1175.1	1179.5	1182.2	1183.0	1183.9	1184.7	1185.5
35°	1125.0	1130.2	1135.4	1138.8	1140.2	1141.6	1143.0	1144.3
37.5°	1077.6	1083.6	1089.5	1093.0	1094.2	1095.3	1096.4	1097.5
40°	1046.2	1052.1	1058.1	1061.7	1063.1	1064.5	1065.9	1067.3
42.5°	1013.4	1019.9	1026.4	1030.6	1032.5	1034.5	1036.4	1038.4
45°	964.3	970.9	977.6	982.3	985.1	987.9	990.7	993.4
47.5°	914.7	922.2	929.7	934.5	936.6	938.8	941.0	943.1
50°	880.6	888.7	896.7	901.9	904.4	906.8	909.3	911.7
52.5°	846.0	854.3	862.6	868.3	871.3	874.3	877.3	880.3
55°	793.8	803.2	812.7	818.8	821.6	824.4	827.2	830.0
57.5°	740.5	750.0	759.5	765.9	769.2	772.5	775.8	779.0
60°	703.3	713.1	722.9	729.7	733.6	737.4	741.2	745.1
62.5°	668.1	677.9	687.7	694.4	697.9	701.5	705.1	708.6
65°	612.0	622.5	633.0	639.9	643.4	646.9	650.4	653.9
67.5°	556.1	567.6	579.0	586.2	589.2	592.1	595.0	598.0
70°	519.1	530.3	541.4	548.8	552.3	555.8	559.2	562.7
72.5°	481.9	493.4	504.8	512.3	515.8	519.3	522.8	526.3
75°	425.5	437.0	448.5	456.4	460.6	464.8	469.0	473.1
77.5°	372.6	384.8	397.0	404.6	407.9	411.1	414.3	417.5
80°	338.1	350.0	361.9	369.6	373.1	376.6	380.1	383.5
82.5°	306.7	318.6	330.4	338.1	341.6	345.1	348.6	352.1
85°	262.7	274.6	286.4	294.1	297.6	301.1	304.6	308.1
87.5°	226.4	238.3	250.3	258.0	261.5	265.1	268.6	272.1
90°	213.1	225.3	237.6	245.6	249.3	253.0	256.7	260.4
92.5°	208.8	220.7	232.6	240.2	243.2	246.3	249.4	252.5
95°	211.6	222.8	234.1	241.4	244.9	248.4	251.9	255.4
97.5°	218.5	229.4	240.3	247.4	250.9	254.3	257.8	261.2
100°	224.2	234.7	245.1	252.2	255.9	259.6	263.2	266.9
102.5°	232.1	242.2	252.4	259.2	262.6	266.1	269.6	273.0
105°	244.4	254.2	264.0	270.5	273.9	277.2	280.6	283.9
107.5°	258.3	268.0	277.7	284.0	287.0	289.9	292.9	295.8
110°	268.7	278.2	287.6	293.7	296.3	298.9	301.5	304.0



TEST NUMBER: P332213

CATALOG NUMBER: S123DIW-S1165D460U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	277.8	287.0	296.3	302.5	305.5	308.6	311.6	314.6
115°	293.3	301.8	310.3	315.9	318.6	321.3	324.0	326.7
117.5°	308.6	316.9	325.2	330.5	333.0	335.4	337.9	340.3
120°	319.3	327.3	335.2	340.3	342.5	344.8	347.0	349.3
122.5°	330.3	337.8	345.3	350.1	352.3	354.4	356.6	358.8
125°	346.5	353.4	360.4	364.8	366.9	368.9	371.0	373.0
127.5°	362.4	368.7	375.1	379.2	381.1	383.0	384.9	386.9
130°	372.9	379.1	385.4	389.2	390.6	391.9	393.3	394.7
132.5°	382.9	388.8	394.7	398.5	400.3	402.2	404.0	405.8
135°	398.6	404.5	410.4	414.1	415.6	417.2	418.7	420.3
137.5°	414.2	419.3	424.4	427.7	429.0	430.4	431.7	433.1
140°	424.9	430.0	435.2	438.2	439.3	440.3	441.4	442.4
142.5°	434.0	438.5	443.1	446.0	447.2	448.4	449.6	450.8
145°	451.3	454.0	456.7	458.5	459.5	460.5	461.5	462.5
147.5°	468.5	469.4	470.2	471.0	471.6	472.3	472.9	473.6
150°	479.9	479.9	479.9	480.0	480.1	480.1	480.2	480.3
152.5°	491.8	492.0	492.2	492.0	491.7	491.3	490.9	490.5
155°	509.3	509.7	510.1	509.9	509.2	508.5	507.8	507.1
157.5°	524.3	524.7	525.1	525.0	524.5	523.9	523.3	522.8
160°	533.5	534.0	534.5	534.5	534.1	533.7	533.3	532.9
162.5°	542.2	542.7	543.2	543.1	542.5	541.8	541.2	540.5
165°	553.2	553.8	554.4	554.3	553.6	552.9	552.2	551.5
167.5°	562.1	562.7	563.3	563.3	562.7	562.1	561.5	560.8
170°	567.0	567.7	568.4	568.4	567.7	567.0	566.3	565.6
172.5°	570.8	571.4	572.0	572.0	571.3	570.6	569.9	569.2
175°	574.9	575.5	576.1	576.1	575.4	574.7	574.0	573.3
177.5°	576.8	577.3	577.7	577.7	577.1	576.6	576.0	575.4
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9

(END OF REPORT)