

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: P332219

Luminaire Tested: **S123DIW-S1165D755U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332219
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-S1165D755U835-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7469.9 lumens
Efficiency: N/A
Efficacy: 124.9 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

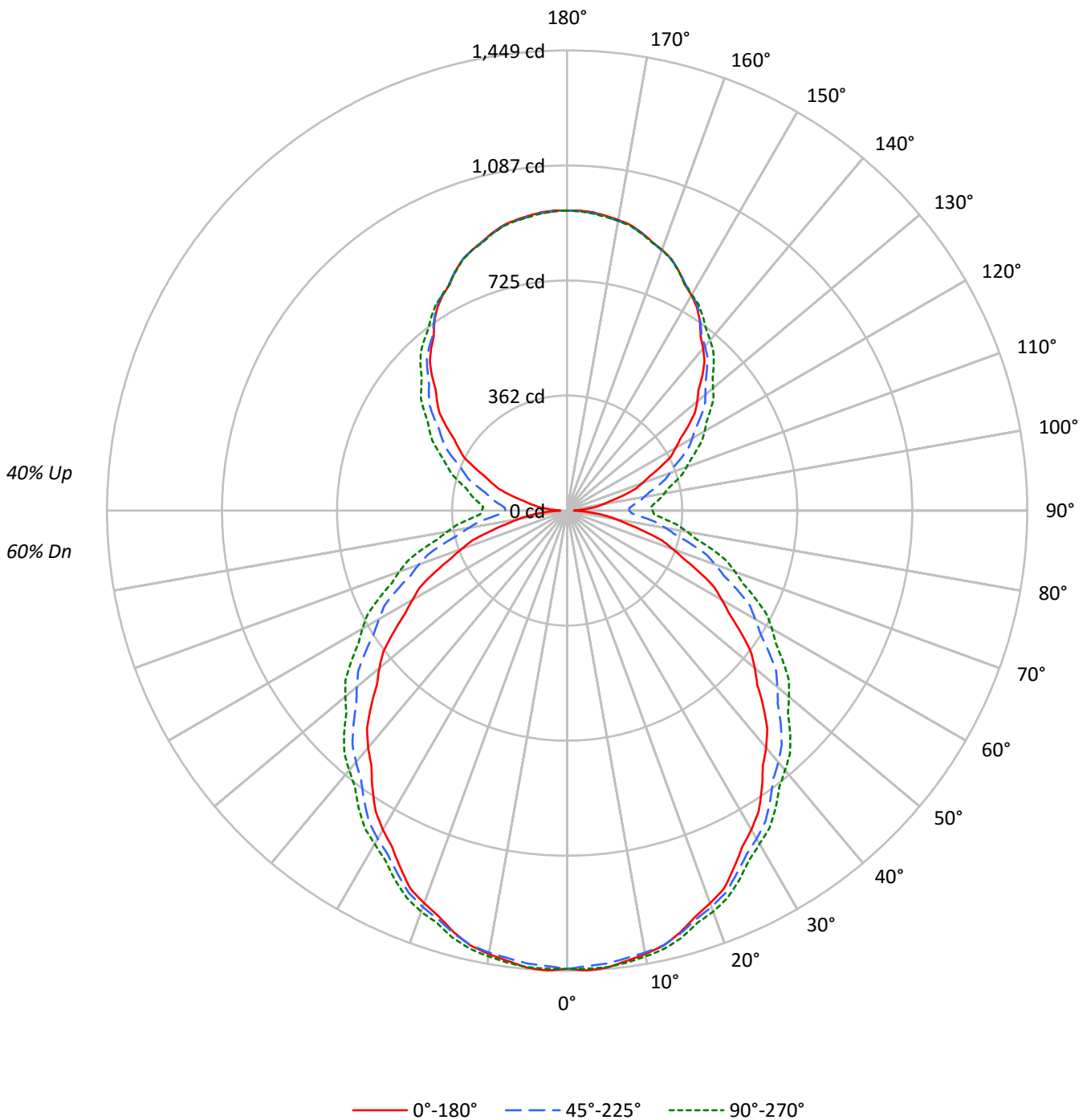
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	89	89	89	76	76	76	65	65	65	60
1	99	94	89	85	92	87	84	80	76	73	70	65	63	61	55	54	52	48
2	89	81	74	69	83	76	70	65	66	61	57	57	53	50	48	45	43	39
3	81	71	63	57	75	66	59	54	58	52	48	50	45	42	42	39	36	32
4	74	63	54	48	69	59	51	45	51	45	40	44	39	35	37	34	31	27
5	68	56	47	41	63	52	44	39	46	39	35	39	34	31	34	30	27	24
6	63	50	41	35	58	47	39	33	41	35	30	36	30	27	30	26	23	21
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	28	24	21	18
8	54	41	33	27	50	38	31	26	34	28	23	30	25	21	25	21	18	16
9	50	37	29	24	47	35	28	23	31	25	21	27	22	19	23	20	17	14
10	47	34	27	22	44	32	25	21	29	23	19	25	20	17	22	18	15	13

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.8	1.8
10°-20°	390.0	5.2
20°-30°	583.2	7.8
30°-40°	696.5	9.3
40°-50°	728.7	9.8
50°-60°	683.9	9.2
60°-70°	571.2	7.6
70°-80°	408.7	5.5
80°-90°	246.5	3.3
90°-100°	214.5	2.9
100°-110°	296.6	4.0
110°-120°	388.4	5.2
120°-130°	455.1	6.1
130°-140°	482.5	6.5
140°-150°	459.5	6.2
150°-160°	383.4	5.1
160°-170°	255.2	3.4
170°-180°	89.4	1.2
0°-30°	1110.0	14.9
0°-40°	1806.5	24.2
0°-60°	3219.1	43.1
0°-90°	4445.4	59.5
90°-120°	899.5	12.0
90°-150°	2296.5	30.7
90°-180°	3024.0	40.5
0°-180°	7469.9	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	106	195	250	269	17
95°	61	128	210	260	278	63
105°	180	221	293	336	353	192
115°	323	346	400	436	450	320
125°	466	471	513	542	551	416
135°	602	606	622	646	653	464
145°	728	728	730	742	746	454
155°	832	832	833	835	831	383
165°	906	904	904	908	903	255
175°	943	940	940	944	939	89
180°	945	945	945	945	945	



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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°	42.0	59.7	77.4	95.1	112.9	130.8	149.1	167.3	185.6	203.8	215.8
90°	21.2	39.9	58.7	77.5	96.2	115.6	135.6	155.5	175.5	195.4	208.0
92.5°	37.1	53.7	70.3	86.8	103.4	121.0	139.8	158.6	177.3	196.1	208.2
95°	61.1	75.9	90.6	105.4	120.2	136.8	155.2	173.7	192.1	210.5	222.0
97.5°	93.2	106.3	119.5	132.7	145.8	161.0	178.3	195.6	212.9	230.3	241.4
100°	115.1	127.3	139.4	151.6	163.8	178.3	195.2	212.1	229.0	245.9	256.5
102.5°	140.6	151.2	161.9	172.5	183.2	196.9	213.8	230.7	247.6	264.4	274.8
105°	179.6	188.3	197.0	205.7	214.4	227.0	243.5	260.1	276.6	293.1	302.8
107.5°	223.4	230.7	238.1	245.4	252.7	263.8	278.6	293.5	308.3	323.2	333.1
110°	250.7	257.3	263.9	270.5	277.1	287.6	301.9	316.2	330.5	344.8	354.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	280.3	285.7	291.1	296.5	301.8	311.2	324.7	338.2	351.7	365.2	374.8
115°	323.3	328.0	332.7	337.4	342.1	350.5	362.8	375.0	387.3	399.5	408.1
117.5°	367.8	370.7	373.7	376.6	379.5	386.6	398.0	409.4	420.8	432.1	440.4
120°	394.5	397.2	400.0	402.7	405.4	412.1	422.8	433.5	444.3	455.0	462.8
122.5°	423.6	425.2	426.8	428.5	430.1	436.2	446.7	457.3	467.8	478.4	485.7
125°	466.4	466.9	467.4	467.9	468.4	473.5	483.3	493.1	502.9	512.7	519.4
127.5°	507.4	508.1	508.8	509.5	510.2	514.5	522.6	530.6	538.6	546.6	552.6
130°	534.7	535.6	536.6	537.6	538.6	542.3	548.8	555.3	561.8	568.3	574.2
132.5°	560.7	562.0	563.2	564.5	565.7	569.0	574.2	579.4	584.6	589.9	595.4
135°	602.1	602.8	603.4	604.1	604.7	606.9	610.5	614.2	617.9	621.6	627.2
137.5°	640.4	641.0	641.5	642.0	642.6	644.2	646.8	649.4	651.9	654.5	659.4
140°	665.9	666.7	667.5	668.4	669.2	670.2	671.4	672.6	673.8	675.0	680.1
142.5°	690.2	690.8	691.3	691.9	692.4	692.9	693.4	693.9	694.4	695.0	699.5
145°	728.2	728.2	728.2	728.2	728.1	728.4	728.9	729.4	729.9	730.4	733.0
147.5°	759.9	760.5	761.1	761.7	762.3	762.8	763.3	763.7	764.2	764.7	765.5
150°	783.1	783.4	783.7	784.1	784.4	784.7	785.0	785.4	785.7	786.0	786.0
152.5°	802.1	802.5	803.0	803.5	803.9	804.2	804.4	804.6	804.8	805.0	805.3
155°	832.1	832.1	832.1	832.1	832.1	832.1	832.3	832.5	832.6	832.8	833.5
157.5°	857.6	857.4	857.2	857.0	856.8	856.8	856.9	857.0	857.2	857.3	858.0
160°	873.6	873.3	873.0	872.6	872.3	872.1	872.1	872.1	872.1	872.1	873.0
162.5°	887.9	887.4	886.9	886.5	886.0	885.9	886.0	886.1	886.3	886.4	887.2
165°	906.3	905.8	905.3	904.8	904.3	904.0	904.0	904.0	904.0	904.0	905.0
167.5°	921.0	920.3	919.7	919.0	918.3	918.1	918.2	918.3	918.5	918.6	919.6
170°	929.3	928.6	928.0	927.3	926.6	926.3	926.3	926.3	926.3	926.3	927.5
172.5°	935.8	935.2	934.5	933.8	933.2	932.8	932.8	932.8	932.8	932.8	933.9
175°	942.6	942.0	941.3	940.7	940.0	939.7	939.7	939.7	939.7	939.7	940.7
177.5°	945.5	944.9	944.4	943.9	943.4	943.1	943.1	943.1	943.1	943.1	943.9
180°	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9



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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°	227.8	239.8	251.9	259.6	263.2	266.8	270.3	273.9
90°	220.5	233.0	245.6	253.8	257.6	261.4	265.2	269.1
92.5°	220.3	232.4	244.6	252.1	255.2	258.2	261.2	264.2
95°	233.5	245.0	256.5	264.0	267.5	271.0	274.5	278.0
97.5°	252.6	263.8	274.9	282.2	285.7	289.1	292.5	295.9
100°	267.1	277.7	288.4	295.6	299.4	303.2	307.1	310.9
102.5°	285.1	295.5	305.8	312.7	316.1	319.6	323.0	326.4
105°	312.6	322.4	332.2	338.8	342.3	345.8	349.2	352.7
107.5°	343.0	352.8	362.7	369.1	372.0	374.9	377.7	380.6
110°	364.3	374.0	383.8	389.9	392.3	394.8	397.3	399.7



TEST NUMBER: P332219

CATALOG NUMBER: S123DIW-S1165D755U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	384.4	393.9	403.5	409.8	412.8	415.9	418.9	421.9
115°	416.6	425.2	433.7	439.3	441.9	444.5	447.2	449.8
117.5°	448.7	457.0	465.3	470.5	472.8	475.1	477.3	479.6
120°	470.7	478.6	486.4	491.4	493.5	495.7	497.8	499.9
122.5°	493.0	500.3	507.7	512.3	514.3	516.3	518.3	520.2
125°	526.1	532.7	539.4	543.7	545.4	547.2	549.0	550.8
127.5°	558.6	564.6	570.6	574.4	576.0	577.6	579.3	580.9
130°	580.2	586.2	592.2	595.6	596.6	597.5	598.4	599.4
132.5°	601.0	606.6	612.1	615.7	617.1	618.6	620.1	621.6
135°	632.8	638.4	644.1	647.6	649.0	650.4	651.8	653.3
137.5°	664.2	669.0	673.8	676.8	677.9	679.1	680.2	681.3
140°	685.2	690.3	695.3	698.2	698.8	699.4	700.0	700.5
142.5°	704.0	708.5	713.0	715.7	716.6	717.4	718.3	719.1
145°	735.6	738.3	740.9	742.6	743.3	744.0	744.8	745.5
147.5°	766.3	767.2	768.0	768.6	768.8	769.1	769.4	769.6
150°	786.0	786.0	786.0	785.9	785.6	785.3	785.0	784.7
152.5°	805.6	805.8	806.1	805.9	805.1	804.4	803.7	803.0
155°	834.1	834.8	835.4	835.2	834.0	832.9	831.7	830.6
157.5°	858.7	859.4	860.1	859.9	859.0	858.1	857.2	856.2
160°	873.8	874.6	875.4	875.5	874.9	874.2	873.5	872.9
162.5°	888.0	888.9	889.7	889.6	888.5	887.5	886.4	885.3
165°	906.0	907.0	908.0	907.9	906.8	905.6	904.5	903.3
167.5°	920.6	921.7	922.7	922.7	921.7	920.6	919.6	918.6
170°	928.6	929.8	930.9	930.9	929.8	928.6	927.5	926.3
172.5°	934.9	935.9	936.9	936.9	935.7	934.6	933.4	932.3
175°	941.7	942.6	943.6	943.6	942.4	941.2	940.1	938.9
177.5°	944.7	945.5	946.3	946.2	945.3	944.3	943.4	942.5
180°	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9

(END OF REPORT)