

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: P332786

Luminaire Tested: **S124DIW-S795D770U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332786
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S795D770U835-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6071.8 lumens
Efficiency: N/A
Efficacy: 134.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

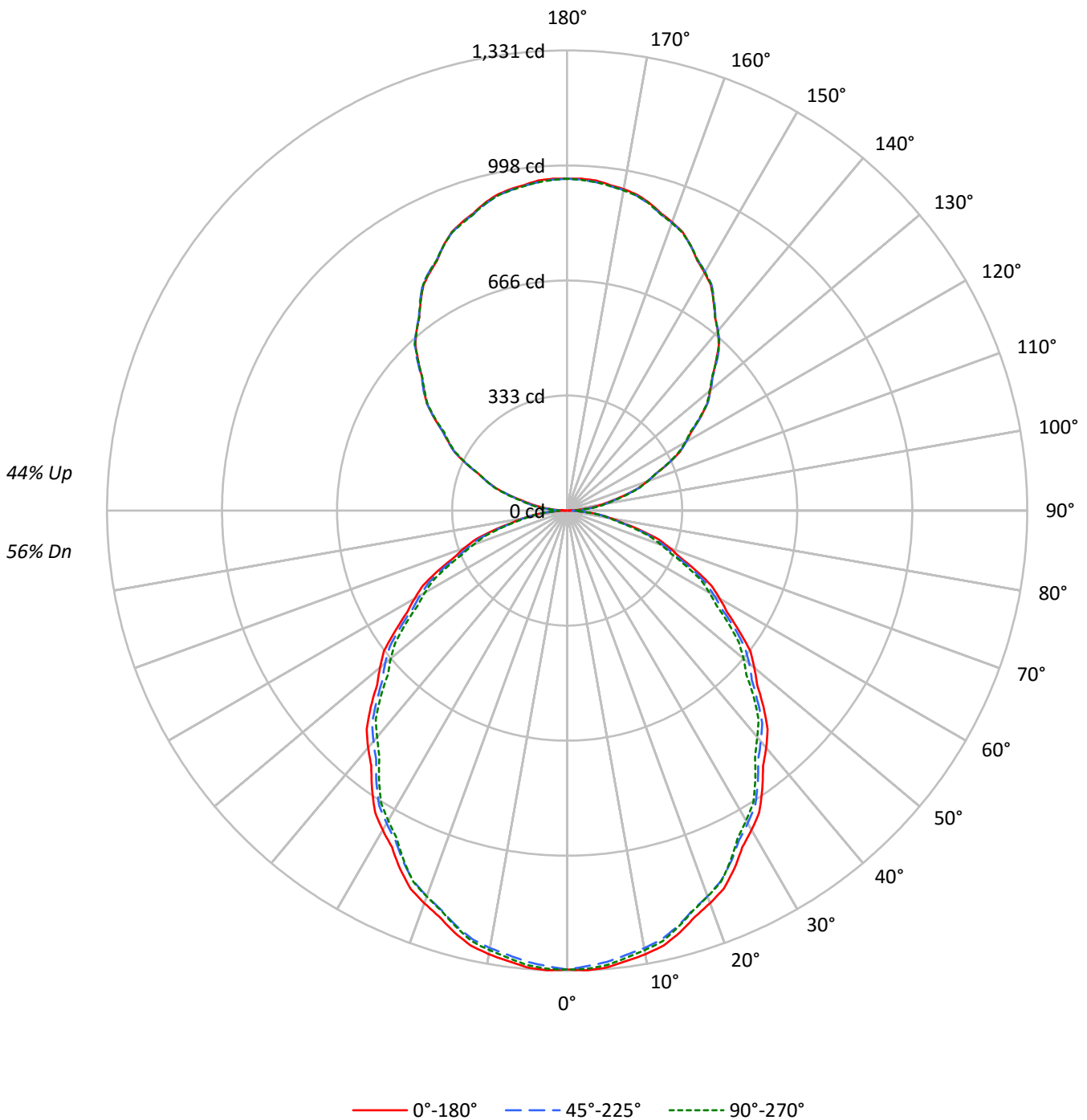
Input Watts (W): 45
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	99	95	91	87	92	88	85	82	76	74	71	65	63	61	55	53	52	47
2	90	83	76	71	84	77	72	67	67	62	59	57	54	51	48	46	44	40
3	82	73	65	59	76	68	61	56	59	54	50	50	47	43	43	40	37	33
4	75	64	56	50	70	60	53	48	52	47	42	45	41	37	38	35	32	29
5	69	57	49	43	64	54	46	41	47	41	36	40	36	32	34	31	28	25
6	64	52	43	37	59	48	41	36	42	36	32	36	32	28	31	27	25	22
7	59	47	38	33	55	44	36	31	38	32	28	33	28	25	28	25	22	19
8	55	42	34	29	51	40	33	28	35	29	25	30	26	22	26	22	20	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	18	16
10	48	35	28	23	44	33	27	22	30	24	20	26	21	18	22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10717	10717	10717
5°	10749	10619	10697
10°	10681	10533	10585
15°	10552	10384	10410
20°	10381	10198	10207
25°	10185	9986	9958
30°	9945	9737	9648
35°	9697	9477	9351
40°	9438	9180	9013
45°	9169	8889	8719
50°	8871	8629	8363
55°	8549	8294	8024
60°	8226	7918	7677
65°	7862	7559	7253
70°	7456	7081	6805
75°	6834	6503	6338
80°	6081	5835	5686
85°	5317	5122	5020



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.0	2.1
10°-20°	352.2	5.8
20°-30°	518.4	8.5
30°-40°	602.7	9.9
40°-50°	602.7	9.9
50°-60°	527.2	8.7
60°-70°	391.5	6.4
70°-80°	222.4	3.7
80°-90°	67.1	1.1
90°-100°	63.3	1.0
100°-110°	187.5	3.1
110°-120°	318.2	5.2
120°-130°	419.6	6.9
130°-140°	471.3	7.8
140°-150°	463.1	7.6
150°-160°	389.5	6.4
160°-170°	259.1	4.3
170°-180°	90.7	1.5
0°-30°	995.7	16.4
0°-40°	1598.4	26.3
0°-60°	2728.3	44.9
0°-90°	3409.3	56.2
90°-120°	569.0	9.4
90°-150°	1923.1	31.7
90°-180°	2662.0	43.8
0°-180°	6071.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1328	1328	1328	1328	1328	
5°	1326	1322	1310	1321	1320	126
15°	1263	1258	1242	1248	1246	356
25°	1143	1136	1121	1122	1118	526
35°	984	976	962	954	949	615
45°	803	795	779	767	764	619
55°	607	604	589	577	570	544
65°	412	406	396	385	380	407
75°	219	214	208	204	203	233
85°	57	57	55	55	54	63
90°	2	10	16	21	22	6
95°	44	51	56	58	59	50
105°	173	174	177	179	181	183
115°	324	324	322	321	321	319
125°	471	471	470	469	468	420
135°	608	612	612	611	609	470
145°	738	741	742	741	739	462
155°	846	846	845	848	845	389
165°	921	919	917	921	919	260
175°	958	955	954	958	954	91
180°	960	960	960	960	960	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1327.5	1327.5	1327.5	1327.5	1327.5	1327.5	1327.5	1327.5	1327.5	1327.5	1327.5
2.5°	1330.9	1330.3	1329.7	1329.2	1328.6	1327.3	1325.2	1323.1	1321.0	1319.0	1320.8
5°	1326.4	1325.5	1324.5	1323.6	1322.6	1320.8	1318.2	1315.6	1313.0	1310.4	1313.0
7.5°	1314.1	1313.1	1312.2	1311.2	1310.3	1308.4	1305.5	1302.6	1299.7	1296.8	1298.9
10°	1303.0	1302.1	1301.1	1300.2	1299.2	1297.2	1294.1	1291.1	1288.0	1284.9	1286.8
12.5°	1288.5	1287.6	1286.6	1285.7	1284.8	1282.6	1279.4	1276.1	1272.9	1269.6	1271.7
15°	1262.6	1261.6	1260.7	1259.7	1258.8	1256.6	1253.0	1249.5	1245.9	1242.4	1243.8
17.5°	1231.3	1230.1	1228.9	1227.8	1226.6	1224.3	1221.0	1217.6	1214.2	1210.9	1211.8
20°	1208.3	1207.1	1206.0	1204.8	1203.6	1201.2	1197.7	1194.1	1190.6	1187.1	1187.8
22.5°	1183.7	1182.1	1180.5	1179.0	1177.4	1174.9	1171.3	1167.8	1164.2	1160.7	1162.0
25°	1143.4	1141.8	1140.1	1138.5	1136.8	1134.3	1131.0	1127.7	1124.4	1121.1	1121.3
27.5°	1097.5	1095.8	1094.1	1092.4	1090.7	1088.3	1085.2	1082.2	1079.1	1076.0	1075.4
30°	1066.9	1065.0	1063.1	1061.2	1059.3	1056.8	1053.7	1050.7	1047.6	1044.5	1043.6
32.5°	1034.5	1032.8	1031.1	1029.4	1027.7	1025.2	1022.0	1018.7	1015.5	1012.2	1011.1
35°	983.9	982.2	980.6	978.9	977.3	974.8	971.5	968.2	964.9	961.6	959.9
37.5°	930.5	929.0	927.5	926.0	924.4	921.9	918.4	914.8	911.3	907.7	905.9
40°	895.6	893.7	891.8	889.9	888.0	885.3	881.8	878.2	874.7	871.1	868.8
42.5°	858.2	857.0	855.9	854.8	853.6	851.1	847.2	843.3	839.3	835.4	832.7
45°	803.1	801.4	799.8	798.1	796.5	793.7	790.0	786.2	782.4	778.6	776.0
47.5°	745.4	744.3	743.2	742.0	740.9	738.6	735.1	731.6	728.1	724.6	721.6
50°	706.3	705.3	704.4	703.4	702.5	700.4	697.1	693.8	690.4	687.1	683.8
52.5°	668.0	666.9	665.7	664.6	663.4	661.1	657.6	654.1	650.6	647.1	644.2
55°	607.4	606.6	605.9	605.2	604.5	602.5	599.2	595.9	592.6	589.3	586.4
57.5°	549.5	548.7	547.9	547.1	546.3	544.2	541.0	537.7	534.5	531.2	528.5
60°	509.5	508.3	507.1	506.0	504.8	502.6	499.6	496.5	493.4	490.4	488.2
62.5°	470.4	469.4	468.4	467.4	466.4	464.3	461.0	457.7	454.5	451.2	449.3
65°	411.6	410.5	409.3	408.1	406.9	405.1	402.8	400.4	398.0	395.7	393.3
67.5°	352.5	351.4	350.3	349.2	348.2	346.5	344.2	341.9	339.7	337.4	335.1
70°	315.9	314.3	312.6	310.9	309.3	307.5	305.6	303.7	301.8	300.0	298.1
72.5°	276.8	275.1	273.5	271.8	270.1	268.6	267.1	265.5	264.0	262.5	261.0
75°	219.1	217.9	216.8	215.6	214.4	213.2	212.0	210.8	209.7	208.5	207.5
77.5°	164.0	163.5	163.0	162.5	161.9	161.2	160.1	159.1	158.0	157.0	156.7
80°	130.8	130.1	129.4	128.7	128.0	127.4	126.9	126.5	126.0	125.5	125.0
82.5°	98.5	98.2	97.8	97.5	97.2	97.0	96.9	96.8	96.7	96.6	96.3
85°	57.4	57.4	57.4	57.4	57.4	57.2	56.7	56.3	55.8	55.3	55.3
87.5°	22.6	22.7	22.9	23.1	23.3	23.4	23.5	23.5	23.6	23.7	23.9
90°	2.2	4.0	5.9	7.7	9.5	11.1	12.4	13.7	15.0	16.3	17.3
92.5°	15.9	18.0	20.0	22.1	24.2	25.7	26.6	27.5	28.5	29.4	30.0
95°	44.5	46.0	47.5	49.0	50.5	51.8	52.9	54.1	55.3	56.4	56.9
97.5°	77.8	79.0	80.2	81.3	82.5	83.8	85.2	86.5	87.9	89.2	89.8
100°	103.9	104.6	105.2	105.9	106.5	107.6	109.1	110.6	112.1	113.6	113.9
102.5°	131.2	131.5	131.7	132.0	132.3	133.1	134.4	135.8	137.1	138.5	139.0
105°	172.9	173.1	173.3	173.4	173.6	174.0	174.7	175.3	176.0	176.6	177.1
107.5°	216.7	216.9	217.1	217.3	217.5	217.7	217.8	217.9	218.0	218.1	218.5
110°	246.4	246.7	247.1	247.4	247.7	247.8	247.6	247.5	247.3	247.1	246.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	277.3	277.3	277.4	277.5	277.5	277.4	277.1	276.8	276.5	276.2	276.2
115°	323.6	323.6	323.6	323.6	323.6	323.4	323.1	322.8	322.4	322.1	321.9
117.5°	367.2	367.4	367.5	367.6	367.8	367.7	367.5	367.3	367.0	366.8	366.2
120°	396.3	397.0	397.6	398.3	399.0	399.0	398.6	398.1	397.6	397.1	396.2
122.5°	426.6	426.9	427.1	427.4	427.7	427.7	427.5	427.2	427.0	426.8	426.2
125°	471.3	471.3	471.3	471.3	471.3	471.2	471.0	470.9	470.7	470.5	470.2
127.5°	511.8	512.3	512.8	513.3	513.8	513.9	513.6	513.4	513.1	512.9	512.5
130°	540.3	540.8	541.3	541.8	542.3	542.5	542.5	542.5	542.5	542.5	542.2
132.5°	569.4	569.8	570.1	570.5	570.9	571.0	570.8	570.7	570.6	570.4	570.1
135°	607.9	608.8	609.8	610.8	611.8	612.3	612.3	612.3	612.3	612.3	612.0
137.5°	649.7	650.2	650.6	651.1	651.6	651.9	652.2	652.4	652.7	653.0	652.5
140°	677.6	677.9	678.3	678.6	678.9	679.1	679.1	679.1	679.1	679.1	678.9
142.5°	703.1	703.5	703.8	704.1	704.5	704.6	704.4	704.3	704.2	704.0	704.0
145°	738.5	739.1	739.8	740.5	741.1	741.5	741.7	741.9	742.0	742.2	742.0
147.5°	773.5	774.3	775.1	775.9	776.7	777.0	776.9	776.7	776.6	776.5	776.3
150°	794.9	795.5	796.2	796.9	797.5	797.9	797.9	797.9	797.9	797.9	797.9
152.5°	815.1	815.5	815.9	816.3	816.7	816.9	817.0	817.2	817.3	817.4	817.8
155°	846.1	846.1	846.1	846.1	846.1	846.0	845.8	845.7	845.5	845.4	846.0
157.5°	872.2	871.9	871.6	871.3	871.0	870.9	870.8	870.8	870.8	870.7	871.2
160°	887.7	887.5	887.3	887.2	887.0	886.8	886.7	886.5	886.3	886.2	886.7
162.5°	901.9	901.5	901.0	900.6	900.2	899.9	899.7	899.6	899.4	899.2	900.1
165°	921.1	920.6	920.1	919.6	919.1	918.7	918.3	918.0	917.7	917.3	918.3
167.5°	935.7	935.1	934.4	933.7	933.0	932.6	932.7	932.7	932.7	932.8	933.8
170°	944.1	943.2	942.4	941.6	940.8	940.4	940.6	940.8	940.9	941.1	942.1
172.5°	950.0	949.3	948.6	947.9	947.2	946.9	946.9	947.0	947.0	947.0	948.2
175°	958.2	957.3	956.5	955.7	954.9	954.4	954.2	954.0	953.9	953.7	954.9
177.5°	960.8	960.2	959.5	958.9	958.2	957.9	957.9	957.9	957.9	957.9	958.8
180°	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1327.5	1327.5	1327.5	1327.5	1327.5	1327.5	1327.5	1327.5
2.5°	1322.7	1324.6	1326.5	1327.4	1327.2	1327.0	1326.8	1326.6
5°	1315.6	1318.2	1320.8	1321.9	1321.4	1321.0	1320.5	1320.0
7.5°	1301.0	1303.1	1305.1	1306.0	1305.8	1305.5	1305.2	1304.9
10°	1288.7	1290.6	1292.5	1293.2	1292.7	1292.2	1291.8	1291.3
12.5°	1273.8	1275.8	1277.9	1278.6	1278.0	1277.3	1276.6	1276.0
15°	1245.2	1246.6	1248.0	1248.4	1247.7	1247.0	1246.3	1245.6
17.5°	1212.7	1213.6	1214.5	1214.7	1214.2	1213.7	1213.3	1212.8
20°	1188.5	1189.2	1189.9	1190.0	1189.5	1189.1	1188.6	1188.1
22.5°	1163.2	1164.5	1165.8	1166.0	1165.1	1164.3	1163.4	1162.6
25°	1121.6	1121.8	1122.1	1121.7	1120.8	1119.8	1118.9	1117.9
27.5°	1074.9	1074.3	1073.7	1072.9	1071.7	1070.5	1069.3	1068.1
30°	1042.6	1041.7	1040.7	1039.7	1038.5	1037.3	1036.1	1035.0
32.5°	1009.9	1008.8	1007.7	1006.5	1005.3	1004.1	1002.9	1001.8
35°	958.3	956.6	954.9	953.5	952.3	951.2	950.0	948.8
37.5°	904.1	902.3	900.6	898.9	897.3	895.8	894.2	892.6
40°	866.4	864.1	861.7	859.9	858.7	857.6	856.4	855.2
42.5°	829.9	827.2	824.4	822.7	821.9	821.1	820.3	819.5
45°	773.4	770.8	768.2	766.6	765.8	765.1	764.4	763.7
47.5°	718.7	715.8	712.8	710.5	708.7	706.9	705.1	703.3
50°	680.5	677.2	673.9	671.5	670.1	668.7	667.3	665.9
52.5°	641.3	638.3	635.4	633.1	631.3	629.5	627.7	625.9
55°	583.6	580.8	577.9	575.8	574.4	573.0	571.5	570.1
57.5°	525.8	523.1	520.4	518.4	517.0	515.6	514.3	512.9
60°	486.1	484.0	481.8	480.2	479.0	477.8	476.6	475.5
62.5°	447.3	445.4	443.5	441.9	440.7	439.5	438.4	437.2
65°	391.0	388.6	386.2	384.5	383.3	382.1	380.9	379.7
67.5°	332.9	330.6	328.3	327.0	326.7	326.4	326.0	325.7
70°	296.2	294.3	292.4	291.1	290.4	289.7	289.0	288.3
72.5°	259.5	258.0	256.5	255.4	254.6	253.9	253.2	252.5
75°	206.6	205.6	204.7	204.1	203.9	203.6	203.4	203.2
77.5°	156.4	156.1	155.9	155.4	154.8	154.2	153.6	153.0
80°	124.6	124.1	123.6	123.3	123.0	122.8	122.6	122.3
82.5°	96.0	95.7	95.4	95.2	95.0	94.7	94.5	94.2
85°	55.3	55.3	55.3	55.2	55.0	54.7	54.5	54.2
87.5°	24.1	24.3	24.5	24.6	24.7	24.7	24.8	24.9
90°	18.3	19.3	20.3	20.9	21.3	21.6	21.9	22.3
92.5°	30.6	31.2	31.8	32.2	32.4	32.6	32.8	33.0
95°	57.4	57.9	58.4	58.6	58.6	58.6	58.6	58.6
97.5°	90.4	91.0	91.6	91.9	91.9	91.9	91.9	91.9
100°	114.2	114.5	114.9	115.0	115.0	115.0	115.0	115.0
102.5°	139.4	139.9	140.3	140.6	140.8	140.9	141.0	141.2
105°	177.6	178.1	178.6	179.1	179.6	180.1	180.6	181.1
107.5°	219.0	219.4	219.9	220.1	220.1	220.1	220.0	220.0
110°	246.5	246.2	245.8	245.9	246.4	246.9	247.4	247.9



TEST NUMBER: P332786

CATALOG NUMBER: S124DIW-S795D770U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	276.1	276.0	276.0	276.0	276.1	276.2	276.3	276.4
115°	321.8	321.6	321.4	321.3	321.1	321.0	320.8	320.6
117.5°	365.7	365.1	364.5	364.1	363.8	363.4	363.1	362.8
120°	395.4	394.6	393.8	393.5	393.9	394.2	394.5	394.8
122.5°	425.6	425.1	424.5	423.9	423.3	422.7	422.2	421.6
125°	469.9	469.6	469.2	468.9	468.6	468.2	467.9	467.6
127.5°	512.2	511.9	511.5	511.2	511.0	510.7	510.4	510.2
130°	541.9	541.5	541.2	540.7	540.1	539.4	538.7	538.1
132.5°	569.8	569.5	569.1	568.8	568.6	568.3	568.0	567.8
135°	611.6	611.3	611.0	610.6	610.1	609.6	609.1	608.6
137.5°	652.1	651.7	651.3	651.1	651.2	651.3	651.4	651.5
140°	678.8	678.6	678.4	678.3	678.1	677.9	677.8	677.6
142.5°	704.0	703.9	703.9	703.9	703.8	703.8	703.8	703.7
145°	741.9	741.7	741.5	741.2	740.7	740.2	739.7	739.2
147.5°	776.2	776.1	775.9	775.8	775.6	775.5	775.3	775.1
150°	797.9	797.9	797.9	797.8	797.6	797.4	797.3	797.1
152.5°	818.2	818.6	819.0	819.0	818.6	818.2	817.7	817.3
155°	846.7	847.3	848.0	848.0	847.3	846.7	846.0	845.4
157.5°	871.7	872.2	872.7	872.7	872.1	871.6	871.0	870.4
160°	887.2	887.7	888.2	888.0	887.2	886.3	885.5	884.7
162.5°	901.0	901.9	902.8	902.8	902.0	901.2	900.4	899.5
165°	919.3	920.3	921.3	921.5	920.8	920.1	919.5	918.8
167.5°	934.8	935.7	936.7	936.7	935.7	934.7	933.7	932.6
170°	943.1	944.1	945.1	945.0	943.8	942.7	941.5	940.4
172.5°	949.3	950.4	951.5	951.5	950.3	949.2	948.0	946.9
175°	956.0	957.2	958.3	958.3	957.2	956.0	954.9	953.7
177.5°	959.7	960.6	961.6	961.5	960.4	959.4	958.3	957.3
180°	959.6	959.6	959.6	959.6	959.6	959.6	959.6	959.6

(END OF REPORT)