

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: P332785-840

Luminaire Tested: **S124DIW-S795D770U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332785-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S795D770U840-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6543.1 lumens
Efficiency: N/A
Efficacy: 145.4 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

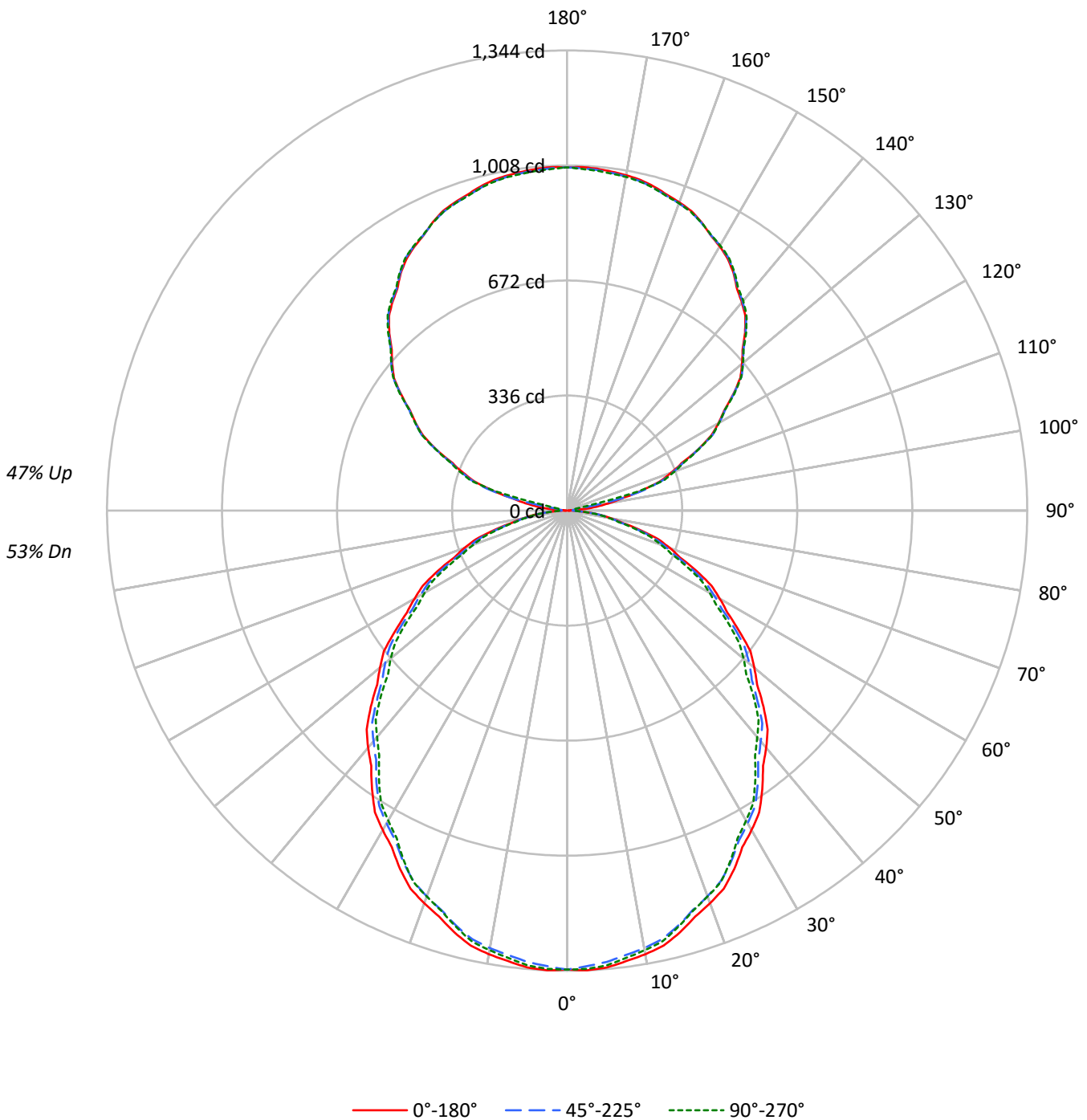
Input Watts (W): 45
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59
1	98	94	90	86	91	87	84	81	74	72	70	63	61	59	52	50	49
2	90	82	76	71	83	76	71	66	65	61	58	55	52	49	45	43	42
3	82	72	65	59	75	67	61	55	57	52	48	49	45	42	40	38	35
4	75	64	56	50	69	59	52	47	51	46	41	43	39	36	36	33	30
5	69	57	49	43	63	53	46	40	46	40	36	39	34	31	32	29	27
6	63	51	43	37	58	48	40	35	41	35	31	35	31	27	29	26	23
7	58	46	38	32	54	43	36	31	37	32	27	32	27	24	27	23	21
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	25	21	19
9	51	38	31	26	47	36	29	24	31	26	22	27	22	19	23	19	17
10	47	35	28	23	44	33	26	22	29	23	20	25	21	17	21	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10823	10823	10823
5°	10855	10724	10802
10°	10787	10637	10690
15°	10657	10486	10513
20°	10483	10299	10308
25°	10286	10085	10056
30°	10043	9833	9743
35°	9792	9570	9443
40°	9531	9271	9101
45°	9259	8977	8805
50°	8959	8715	8446
55°	8633	8376	8103
60°	8307	7995	7753
65°	7941	7633	7324
70°	7530	7152	6871
75°	6903	6569	6400
80°	6141	5890	5742
85°	5372	5169	5067



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.2	1.9
10°-20°	355.7	5.4
20°-30°	523.5	8.0
30°-40°	608.6	9.3
40°-50°	608.7	9.3
50°-60°	532.4	8.1
60°-70°	395.4	6.0
70°-80°	224.6	3.4
80°-90°	67.7	1.0
90°-100°	34.3	0.5
100°-110°	218.6	3.3
110°-120°	418.1	6.4
120°-130°	530.7	8.1
130°-140°	567.9	8.7
140°-150°	531.0	8.1
150°-160°	428.2	6.5
160°-170°	276.2	4.2
170°-180°	95.2	1.5
0°-30°	1005.5	15.4
0°-40°	1614.1	24.7
0°-60°	2755.2	42.1
0°-90°	3443.0	52.6
90°-120°	670.9	10.3
90°-150°	2300.6	35.2
90°-180°	3100.0	47.4
0°-180°	6543.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1341	1341	1341	1341	1341	
5°	1340	1335	1323	1334	1333	127
15°	1275	1270	1255	1260	1258	359
25°	1155	1147	1132	1133	1129	531
35°	994	986	971	964	958	621
45°	811	803	786	775	771	625
55°	613	609	595	583	576	549
65°	416	410	400	389	383	411
75°	221	216	211	206	205	235
85°	58	58	56	56	55	64
90°	2	10	16	21	22	5
95°	41	17	16	21	22	53
105°	226	230	234	239	214	236
115°	421	423	423	424	424	414
125°	592	595	594	596	597	529
135°	735	734	737	738	740	566
145°	847	849	849	850	852	529
155°	929	929	927	930	928	428
165°	980	976	976	981	975	277
175°	1002	998	998	1004	996	95
180°	1002	1002	1002	1002	1002	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6
2.5°	1344.0	1343.4	1342.8	1342.3	1341.7	1340.4	1338.3	1336.2	1334.0	1332.0	1333.8
5°	1339.5	1338.6	1337.6	1336.7	1335.6	1333.8	1331.2	1328.6	1326.0	1323.3	1326.0
7.5°	1327.1	1326.1	1325.1	1324.1	1323.2	1321.3	1318.4	1315.5	1312.5	1309.6	1311.7
10°	1315.9	1314.9	1313.9	1313.0	1312.0	1310.0	1306.9	1303.8	1300.7	1297.6	1299.5
12.5°	1301.2	1300.3	1299.3	1298.4	1297.5	1295.3	1292.0	1288.7	1285.5	1282.1	1284.2
15°	1275.1	1274.0	1273.1	1272.1	1271.2	1269.0	1265.4	1261.8	1258.2	1254.7	1256.1
17.5°	1243.4	1242.2	1241.0	1239.9	1238.7	1236.4	1233.0	1229.6	1226.2	1222.8	1223.8
20°	1220.2	1219.0	1217.9	1216.7	1215.5	1213.0	1209.5	1205.9	1202.3	1198.8	1199.5
22.5°	1195.4	1193.8	1192.1	1190.6	1189.0	1186.5	1182.9	1179.3	1175.7	1172.2	1173.5
25°	1154.7	1153.1	1151.3	1149.7	1148.0	1145.5	1142.2	1138.8	1135.5	1132.2	1132.4
27.5°	1108.3	1106.6	1104.9	1103.2	1101.5	1099.0	1095.9	1092.9	1089.7	1086.6	1086.0
30°	1077.4	1075.5	1073.6	1071.7	1069.8	1067.2	1064.1	1061.1	1057.9	1054.8	1053.9
32.5°	1044.7	1043.0	1041.3	1039.6	1037.8	1035.3	1032.1	1028.7	1025.5	1022.2	1021.1
35°	993.6	991.9	990.3	988.6	986.9	984.4	981.1	977.8	974.4	971.1	969.4
37.5°	939.7	938.2	936.6	935.1	933.5	931.0	927.5	923.8	920.3	916.7	914.8
40°	904.4	902.5	900.6	898.7	896.8	894.0	890.5	886.9	883.3	879.7	877.4
42.5°	866.7	865.5	864.3	863.2	862.0	859.5	855.6	851.6	847.6	843.6	840.9
45°	811.0	809.3	807.7	806.0	804.4	801.5	797.8	794.0	790.1	786.3	783.7
47.5°	752.8	751.6	750.5	749.3	748.2	745.9	742.4	738.8	735.3	731.7	728.7
50°	713.3	712.3	711.3	710.3	709.4	707.3	704.0	700.6	697.2	693.9	690.5
52.5°	674.6	673.5	672.3	671.2	669.9	667.6	664.1	660.6	657.0	653.5	650.6
55°	613.4	612.6	611.9	611.2	610.5	608.4	605.1	601.8	598.4	595.1	592.2
57.5°	554.9	554.1	553.3	552.5	551.7	549.6	546.3	543.0	539.8	536.4	533.7
60°	514.5	513.3	512.1	511.0	509.8	507.6	504.5	501.4	498.3	495.2	493.0
62.5°	475.0	474.0	473.0	472.0	471.0	468.9	465.5	462.2	459.0	455.7	453.7
65°	415.7	414.5	413.3	412.1	410.9	409.1	406.8	404.3	401.9	399.6	397.2
67.5°	356.0	354.9	353.8	352.6	351.6	349.9	347.6	345.3	343.1	340.7	338.4
70°	319.0	317.4	315.7	314.0	312.4	310.5	308.6	306.7	304.8	303.0	301.0
72.5°	279.5	277.8	276.2	274.5	272.8	271.2	269.7	268.1	266.6	265.1	263.6
75°	221.3	220.0	218.9	217.7	216.5	215.3	214.1	212.9	211.8	210.6	209.5
77.5°	165.6	165.1	164.6	164.1	163.5	162.8	161.7	160.7	159.6	158.5	158.2
80°	132.1	131.4	130.7	130.0	129.3	128.7	128.2	127.7	127.2	126.7	126.2
82.5°	99.5	99.2	98.8	98.5	98.2	98.0	97.9	97.8	97.7	97.6	97.3
85°	58.0	58.0	58.0	58.0	58.0	57.8	57.3	56.9	56.4	55.8	55.8
87.5°	22.8	22.9	23.1	23.3	23.5	23.6	23.7	23.7	23.8	23.9	24.1
90°	2.2	4.0	6.0	7.8	9.6	11.2	12.5	13.8	15.1	16.5	17.5
92.5°	9.5	9.6	9.7	9.7	9.8	10.6	11.9	13.2	14.5	15.9	16.9
95°	41.2	35.5	29.9	24.2	18.6	15.9	16.0	16.2	16.4	16.5	17.5
97.5°	87.6	91.1	94.6	98.2	101.7	94.1	75.5	57.0	38.4	19.8	19.9
100°	122.9	125.9	129.0	131.9	134.9	124.9	102.0	79.0	55.9	33.0	30.2
102.5°	162.5	164.7	166.9	169.2	171.3	170.9	167.9	164.9	161.9	159.0	128.4
105°	225.6	226.6	227.6	228.6	229.6	230.6	231.4	232.2	233.1	233.9	235.4
107.5°	284.3	284.8	285.3	285.8	286.3	287.1	288.2	289.3	290.4	291.5	292.4
110°	323.9	324.4	324.9	325.4	325.8	326.6	327.6	328.6	329.6	330.5	330.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	362.2	363.1	364.1	364.9	365.8	366.5	367.0	367.4	367.9	368.4	368.3
115°	421.3	421.8	422.3	422.7	423.2	423.4	423.2	423.1	422.9	422.7	423.1
117.5°	474.5	475.1	475.8	476.5	477.2	477.7	478.1	478.4	478.8	479.2	479.1
120°	510.5	511.2	511.8	512.5	513.1	513.4	513.2	513.1	512.9	512.7	513.1
122.5°	544.1	544.4	544.8	545.2	545.6	545.9	546.2	546.4	546.6	546.9	547.1
125°	592.2	592.9	593.5	594.2	594.8	595.0	594.7	594.4	594.0	593.7	594.2
127.5°	637.7	637.9	638.1	638.2	638.4	638.9	639.6	640.5	641.2	642.0	641.9
130°	667.1	667.3	667.5	667.6	667.8	668.1	668.6	669.1	669.6	670.1	670.3
132.5°	694.2	694.5	694.8	695.0	695.3	695.8	696.4	697.1	697.7	698.3	698.5
135°	734.6	734.5	734.3	734.1	734.0	734.2	734.9	735.5	736.2	736.9	737.2
137.5°	770.4	770.5	770.6	770.6	770.7	771.1	771.8	772.5	773.4	774.1	774.4
140°	793.9	794.2	794.5	794.9	795.2	795.5	795.9	796.2	796.5	796.9	797.3
142.5°	814.9	815.5	816.1	816.6	817.2	817.6	817.8	818.0	818.2	818.4	818.8
145°	847.1	847.6	848.1	848.6	849.1	849.3	849.3	849.3	849.3	849.3	849.5
147.5°	872.7	873.6	874.5	875.5	876.5	876.8	876.7	876.5	876.3	876.2	876.3
150°	891.3	891.9	892.6	893.3	893.9	894.2	894.0	893.8	893.7	893.5	893.5
152.5°	906.9	907.4	908.0	908.5	909.0	909.1	908.8	908.6	908.3	908.0	908.2
155°	928.8	929.0	929.1	929.3	929.5	929.3	928.8	928.3	927.8	927.3	928.0
157.5°	947.3	947.2	947.1	947.0	946.8	946.4	945.9	945.3	944.7	944.2	945.0
160°	958.0	957.5	957.0	956.5	956.0	955.6	955.5	955.3	955.1	955.0	956.0
162.5°	967.6	966.9	966.3	965.7	965.0	964.6	964.5	964.3	964.1	964.0	965.0
165°	979.8	978.9	978.1	977.2	976.4	976.0	976.0	976.0	976.0	976.0	977.3
167.5°	989.4	988.5	987.6	986.7	985.8	985.4	985.3	985.2	985.1	985.0	986.4
170°	994.7	993.7	992.7	991.7	990.8	990.3	990.5	990.7	990.8	991.0	992.3
172.5°	998.4	997.3	996.3	995.3	994.3	993.9	994.1	994.2	994.4	994.6	995.9
175°	1002.2	1001.2	1000.3	999.3	998.3	997.8	997.9	998.2	998.4	998.5	1000.0
177.5°	1004.0	1003.1	1002.2	1001.2	1000.3	1000.0	1000.3	1000.5	1000.8	1001.0	1002.1
180°	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6
2.5°	1335.7	1337.7	1339.6	1340.5	1340.3	1340.1	1339.9	1339.7
5°	1328.6	1331.2	1333.8	1334.9	1334.4	1334.0	1333.5	1333.0
7.5°	1313.8	1316.0	1318.0	1318.9	1318.7	1318.4	1318.1	1317.8
10°	1301.4	1303.3	1305.3	1306.0	1305.5	1304.9	1304.5	1304.0
12.5°	1286.4	1288.4	1290.5	1291.2	1290.6	1289.9	1289.2	1288.6
15°	1257.5	1258.9	1260.3	1260.7	1260.0	1259.3	1258.6	1257.9
17.5°	1224.7	1225.6	1226.5	1226.7	1226.2	1225.7	1225.3	1224.8
20°	1200.2	1200.9	1201.6	1201.7	1201.2	1200.8	1200.3	1199.8
22.5°	1174.7	1176.0	1177.3	1177.5	1176.6	1175.8	1174.9	1174.1
25°	1132.7	1132.9	1133.2	1132.8	1131.9	1130.8	1129.9	1128.9
27.5°	1085.5	1084.9	1084.3	1083.5	1082.3	1081.1	1079.8	1078.6
30°	1052.9	1052.0	1051.0	1050.0	1048.7	1047.5	1046.3	1045.2
32.5°	1019.9	1018.8	1017.6	1016.4	1015.2	1014.0	1012.8	1011.7
35°	967.8	966.0	964.3	962.9	961.7	960.6	959.4	958.2
37.5°	913.0	911.2	909.5	907.8	906.2	904.6	903.0	901.4
40°	874.9	872.6	870.2	868.4	867.2	866.1	864.8	863.6
42.5°	838.1	835.4	832.5	830.8	830.0	829.2	828.4	827.6
45°	781.0	778.4	775.8	774.2	773.4	772.6	771.9	771.2
47.5°	725.8	722.9	719.8	717.5	715.7	713.9	712.1	710.2
50°	687.2	683.9	680.5	678.1	676.7	675.3	673.9	672.5
52.5°	647.6	644.6	641.7	639.3	637.5	635.7	633.9	632.1
55°	589.4	586.5	583.6	581.5	580.1	578.7	577.1	575.7
57.5°	531.0	528.3	525.5	523.5	522.1	520.7	519.4	518.0
60°	490.9	488.8	486.6	484.9	483.7	482.5	481.3	480.2
62.5°	451.7	449.8	447.9	446.3	445.0	443.8	442.7	441.5
65°	394.9	392.4	390.0	388.3	387.1	385.9	384.7	383.4
67.5°	336.2	333.9	331.5	330.2	329.9	329.6	329.2	328.9
70°	299.1	297.2	295.3	294.0	293.3	292.6	291.9	291.1
72.5°	262.1	260.5	259.0	257.9	257.1	256.4	255.7	255.0
75°	208.6	207.6	206.7	206.1	205.9	205.6	205.4	205.2
77.5°	157.9	157.6	157.4	156.9	156.3	155.7	155.1	154.5
80°	125.8	125.3	124.8	124.5	124.2	124.0	123.8	123.5
82.5°	96.9	96.6	96.3	96.1	95.9	95.6	95.4	95.1
85°	55.8	55.8	55.8	55.7	55.5	55.2	55.0	54.7
87.5°	24.3	24.5	24.7	24.8	24.9	24.9	25.0	25.1
90°	18.5	19.5	20.5	21.1	21.5	21.8	22.1	22.5
92.5°	17.9	18.9	19.9	20.4	20.5	20.6	20.6	20.7
95°	18.5	19.5	20.5	21.1	21.2	21.4	21.6	21.7
97.5°	20.0	20.1	20.2	20.3	20.5	20.7	20.8	21.0
100°	27.4	24.4	21.6	20.3	20.5	20.7	20.8	21.0
102.5°	97.9	67.3	36.8	21.4	21.5	21.5	21.5	21.6
105°	236.9	238.3	239.8	237.6	231.7	225.6	219.6	213.7
107.5°	293.1	293.8	294.6	295.2	295.9	296.5	297.1	297.7
110°	331.2	331.5	331.9	332.3	332.9	333.4	333.9	334.4



TEST NUMBER: P332785-840

CATALOG NUMBER: S124DIW-S795D770U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	368.2	368.2	368.1	368.4	369.0	369.6	370.3	370.9
115°	423.4	423.7	424.1	424.2	424.2	424.2	424.2	424.2
117.5°	479.0	479.0	478.9	478.8	478.8	478.7	478.6	478.6
120°	513.4	513.7	514.0	514.0	513.7	513.4	513.1	512.7
122.5°	547.3	547.5	547.8	547.6	547.3	546.9	546.6	546.3
125°	594.7	595.2	595.7	596.0	596.2	596.3	596.5	596.7
127.5°	641.8	641.7	641.6	641.5	641.4	641.2	641.1	641.0
130°	670.4	670.7	670.9	670.9	670.9	670.9	670.9	670.9
132.5°	698.6	698.8	699.0	699.0	698.9	698.7	698.6	698.5
135°	737.5	737.9	738.2	738.5	738.8	739.2	739.5	739.8
137.5°	774.8	775.2	775.5	775.7	775.6	775.5	775.4	775.3
140°	797.8	798.3	798.8	799.2	799.3	799.5	799.7	799.8
142.5°	819.2	819.5	819.9	820.1	820.1	820.1	820.2	820.2
145°	849.6	849.8	850.0	850.2	850.5	850.9	851.2	851.5
147.5°	876.4	876.6	876.7	876.9	877.0	877.2	877.4	877.5
150°	893.5	893.5	893.5	893.6	893.8	893.9	894.1	894.2
152.5°	908.5	908.7	909.0	909.1	909.0	908.9	908.8	908.7
155°	928.6	929.3	929.9	930.0	929.5	929.0	928.5	928.1
157.5°	945.9	946.8	947.7	947.7	946.8	945.9	945.0	944.2
160°	957.0	958.0	959.0	959.0	958.0	957.0	956.0	955.0
162.5°	966.0	966.9	968.0	968.0	966.8	965.6	964.5	963.4
165°	978.7	980.0	981.3	981.3	979.8	978.3	976.7	975.2
167.5°	988.0	989.4	990.9	990.8	989.1	987.4	985.7	984.1
170°	993.6	995.0	996.3	996.1	994.5	992.8	991.2	989.5
172.5°	997.2	998.6	999.9	999.7	997.8	996.1	994.3	992.5
175°	1001.5	1003.0	1004.5	1004.2	1002.2	1000.3	998.3	996.2
177.5°	1003.2	1004.2	1005.3	1005.0	1003.4	1001.8	1000.3	998.7
180°	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2

(END OF REPORT)