

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: P332786-830

Luminaire Tested: **S124DIW-S795D770U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332786-830  
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-S795D770U830-4F0-1E-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: 5722.9 lumens  
Efficiency: N/A  
Efficacy: 127.2 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

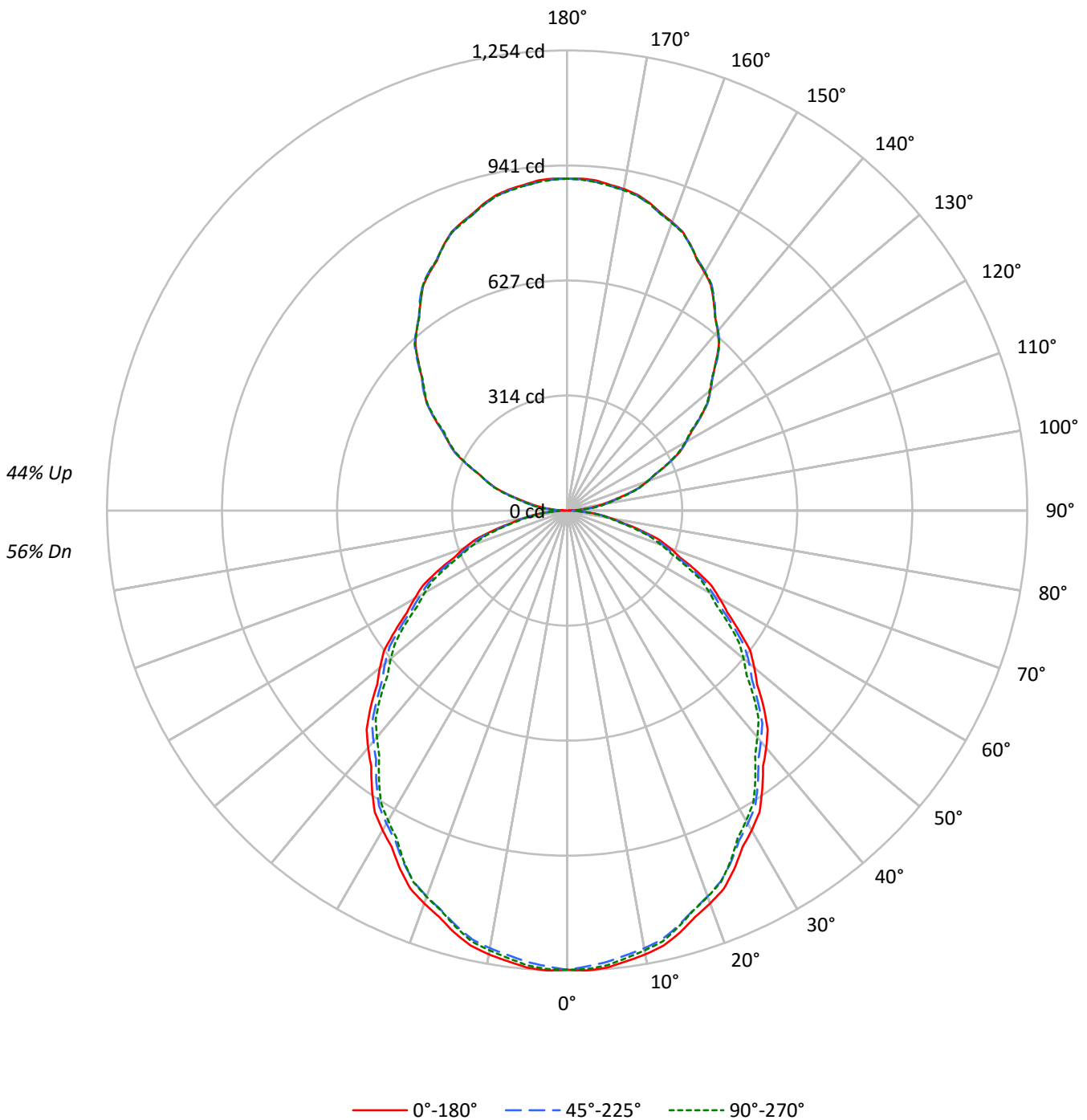
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	10101	10101	10101
5°	10131	10009	10083
10°	10067	9928	9977
15°	9947	9787	9812
20°	9784	9613	9620
25°	9600	9413	9386
30°	9374	9177	9093
35°	9140	8932	8814
40°	8896	8652	8495
45°	8643	8379	8218
50°	8361	8133	7882
55°	8058	7817	7562
60°	7753	7463	7237
65°	7412	7125	6837
70°	7027	6675	6413
75°	6441	6129	5973
80°	5732	5500	5360
85°	5011	4826	4733



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.8	2.1
10°-20°	332.0	5.8
20°-30°	488.6	8.5
30°-40°	568.1	9.9
40°-50°	568.1	9.9
50°-60°	496.9	8.7
60°-70°	369.0	6.4
70°-80°	209.7	3.7
80°-90°	63.2	1.1
90°-100°	59.7	1.0
100°-110°	176.7	3.1
110°-120°	300.0	5.2
120°-130°	395.5	6.9
130°-140°	444.2	7.8
140°-150°	436.5	7.6
150°-160°	367.1	6.4
160°-170°	244.3	4.3
170°-180°	85.5	1.5
0°-30°	938.5	16.4
0°-40°	1506.5	26.3
0°-60°	2571.5	44.9
0°-90°	3213.4	56.2
90°-120°	536.4	9.4
90°-150°	1812.6	31.7
90°-180°	2510.0	43.9
0°-180°	5722.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1251	1251	1251	1251	1251	
5°	1250	1246	1235	1245	1244	119
15°	1190	1185	1171	1176	1174	335
25°	1078	1070	1057	1057	1054	496
35°	927	920	906	899	894	580
45°	757	749	734	723	720	583
55°	572	569	555	544	537	513
65°	388	383	373	363	358	384
75°	206	202	196	193	192	219
85°	54	54	52	52	51	60
90°	2	10	15	19	21	6
95°	42	48	53	55	55	47
105°	163	164	166	169	171	173
115°	305	305	304	303	302	301
125°	444	444	444	442	441	396
135°	573	577	577	576	574	443
145°	696	699	700	699	697	435
155°	798	797	797	799	797	367
165°	868	866	865	868	866	245
175°	903	900	899	903	899	86
180°	904	904	904	904	904	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1251.2	1251.2	1251.2	1251.2	1251.2	1251.2	1251.2	1251.2	1251.2	1251.2	1251.2
2.5°	1254.4	1253.9	1253.3	1252.8	1252.3	1251.0	1249.1	1247.1	1245.1	1243.2	1244.9
5°	1250.2	1249.3	1248.4	1247.5	1246.6	1244.9	1242.5	1240.0	1237.6	1235.1	1237.6
7.5°	1238.6	1237.7	1236.8	1235.9	1235.0	1233.2	1230.5	1227.8	1225.0	1222.3	1224.3
10°	1228.1	1227.3	1226.3	1225.5	1224.6	1222.7	1219.7	1216.9	1214.0	1211.1	1212.9
12.5°	1214.5	1213.6	1212.7	1211.8	1211.0	1208.9	1205.9	1202.8	1199.8	1196.7	1198.6
15°	1190.1	1189.1	1188.3	1187.3	1186.5	1184.4	1181.0	1177.7	1174.3	1171.0	1172.3
17.5°	1160.6	1159.4	1158.3	1157.3	1156.1	1154.0	1150.8	1147.6	1144.4	1141.3	1142.2
20°	1138.9	1137.7	1136.7	1135.6	1134.4	1132.2	1128.9	1125.5	1122.2	1118.9	1119.6
22.5°	1115.7	1114.2	1112.7	1111.3	1109.7	1107.4	1104.0	1100.7	1097.3	1094.0	1095.2
25°	1077.7	1076.2	1074.6	1073.1	1071.5	1069.1	1066.0	1062.9	1059.8	1056.7	1056.9
27.5°	1034.4	1032.8	1031.2	1029.6	1028.0	1025.8	1022.8	1020.0	1017.1	1014.2	1013.6
30°	1005.6	1003.8	1002.0	1000.2	998.4	996.1	993.2	990.3	987.4	984.5	983.6
32.5°	975.1	973.5	971.9	970.3	968.7	966.3	963.3	960.2	957.2	954.0	953.0
35°	927.4	925.8	924.3	922.7	921.1	918.8	915.7	912.6	909.5	906.3	904.7
37.5°	877.0	875.6	874.2	872.8	871.3	868.9	865.6	862.2	858.9	855.5	853.8
40°	844.1	842.4	840.6	838.8	837.0	834.4	831.1	827.7	824.4	821.0	818.9
42.5°	808.9	807.8	806.7	805.7	804.6	802.2	798.5	794.8	791.1	787.4	784.9
45°	757.0	755.4	753.8	752.2	750.7	748.1	744.6	741.0	737.4	733.9	731.4
47.5°	702.6	701.5	700.5	699.4	698.3	696.2	692.9	689.6	686.3	683.0	680.1
50°	665.7	664.8	663.9	663.0	662.1	660.2	657.0	653.9	650.7	647.6	644.5
52.5°	629.6	628.6	627.5	626.4	625.3	623.1	619.8	616.5	613.2	609.9	607.2
55°	572.5	571.7	571.1	570.4	569.8	567.9	564.8	561.7	558.6	555.4	552.7
57.5°	517.9	517.2	516.4	515.7	514.9	512.9	509.9	506.8	503.8	500.7	498.1
60°	480.2	479.1	478.0	476.9	475.8	473.7	470.9	468.0	465.1	462.2	460.1
62.5°	443.4	442.4	441.5	440.5	439.6	437.6	434.5	431.4	428.4	425.3	423.5
65°	388.0	386.9	385.8	384.7	383.5	381.8	379.7	377.4	375.1	373.0	370.7
67.5°	332.2	331.2	330.2	329.1	328.2	326.6	324.4	322.3	320.2	318.0	315.8
70°	297.7	296.2	294.6	293.0	291.5	289.8	288.0	286.3	284.5	282.8	281.0
72.5°	260.9	259.3	257.8	256.2	254.6	253.2	251.8	250.2	248.8	247.4	246.0
75°	206.5	205.4	204.3	203.2	202.1	201.0	199.8	198.7	197.7	196.5	195.6
77.5°	154.6	154.1	153.6	153.2	152.6	151.9	150.9	150.0	148.9	148.0	147.7
80°	123.3	122.6	122.0	121.3	120.6	120.1	119.6	119.2	118.8	118.3	117.8
82.5°	92.8	92.6	92.2	91.9	91.6	91.4	91.3	91.2	91.1	91.0	90.8
85°	54.1	54.1	54.1	54.1	54.1	53.9	53.4	53.1	52.6	52.1	52.1
87.5°	21.3	21.4	21.6	21.8	22.0	22.1	22.1	22.1	22.2	22.3	22.5
90°	2.1	3.8	5.6	7.3	9.0	10.5	11.7	12.9	14.1	15.4	16.3
92.5°	15.0	17.0	18.9	20.8	22.8	24.2	25.1	25.9	26.9	27.7	28.3
95°	41.9	43.4	44.8	46.2	47.6	48.8	49.9	51.0	52.1	53.2	53.6
97.5°	73.3	74.5	75.6	76.6	77.8	79.0	80.3	81.5	82.8	84.1	84.6
100°	97.9	98.6	99.2	99.8	100.4	101.4	102.8	104.2	105.7	107.1	107.4
102.5°	123.7	123.9	124.1	124.4	124.7	125.5	126.7	128.0	129.2	130.5	131.0
105°	163.0	163.2	163.3	163.4	163.6	164.0	164.7	165.2	165.9	166.5	166.9
107.5°	204.2	204.4	204.6	204.8	205.0	205.2	205.3	205.4	205.5	205.6	205.9
110°	232.2	232.5	232.9	233.2	233.5	233.6	233.4	233.3	233.1	232.9	232.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	261.4	261.4	261.5	261.6	261.6	261.5	261.2	260.9	260.6	260.3	260.3
115°	305.0	305.0	305.0	305.0	305.0	304.8	304.5	304.3	303.9	303.6	303.4
117.5°	346.1	346.3	346.4	346.5	346.7	346.6	346.4	346.2	345.9	345.7	345.2
120°	373.5	374.2	374.8	375.4	376.1	376.1	375.7	375.2	374.8	374.3	373.4
122.5°	402.1	402.4	402.6	402.8	403.1	403.1	402.9	402.7	402.5	402.3	401.7
125°	444.2	444.2	444.2	444.2	444.2	444.1	443.9	443.8	443.7	443.5	443.2
127.5°	482.4	482.9	483.3	483.8	484.3	484.4	484.1	483.9	483.6	483.4	483.1
130°	509.3	509.7	510.2	510.7	511.1	511.3	511.3	511.3	511.3	511.3	511.0
132.5°	536.7	537.1	537.3	537.7	538.1	538.2	538.0	537.9	537.8	537.6	537.3
135°	573.0	573.8	574.8	575.7	576.6	577.1	577.1	577.1	577.1	577.1	576.8
137.5°	612.4	612.8	613.2	613.7	614.2	614.4	614.7	614.9	615.2	615.5	615.0
140°	638.7	638.9	639.3	639.6	639.9	640.1	640.1	640.1	640.1	640.1	639.9
142.5°	662.7	663.1	663.4	663.6	664.0	664.1	663.9	663.8	663.7	663.5	663.5
145°	696.1	696.6	697.3	698.0	698.5	698.9	699.1	699.3	699.4	699.6	699.4
147.5°	729.1	729.8	730.6	731.3	732.1	732.4	732.3	732.1	732.0	731.9	731.7
150°	749.2	749.8	750.5	751.1	751.7	752.1	752.1	752.1	752.1	752.1	752.1
152.5°	768.3	768.6	769.0	769.4	769.8	770.0	770.1	770.2	770.3	770.4	770.8
155°	797.5	797.5	797.5	797.5	797.5	797.4	797.2	797.1	796.9	796.8	797.4
157.5°	822.1	821.8	821.5	821.2	821.0	820.9	820.8	820.8	820.8	820.7	821.1
160°	836.7	836.5	836.3	836.2	836.0	835.8	835.8	835.6	835.4	835.3	835.8
162.5°	850.1	849.7	849.2	848.9	848.5	848.2	848.0	847.9	847.7	847.5	848.4
165°	868.2	867.7	867.2	866.8	866.3	865.9	865.5	865.3	865.0	864.6	865.5
167.5°	881.9	881.4	880.7	880.1	879.4	879.0	879.1	879.1	879.1	879.2	880.1
170°	889.9	889.0	888.3	887.5	886.7	886.4	886.6	886.7	886.8	887.0	888.0
172.5°	895.4	894.8	894.1	893.4	892.8	892.5	892.5	892.6	892.6	892.6	893.7
175°	903.1	902.3	901.5	900.8	900.0	899.6	899.4	899.2	899.1	898.9	900.0
177.5°	905.6	905.0	904.4	903.8	903.1	902.9	902.9	902.9	902.9	902.9	903.7
180°	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1251.2	1251.2	1251.2	1251.2	1251.2	1251.2	1251.2	1251.2
2.5°	1246.7	1248.5	1250.3	1251.1	1250.9	1250.8	1250.6	1250.4
5°	1240.0	1242.5	1244.9	1245.9	1245.5	1245.1	1244.6	1244.2
7.5°	1226.2	1228.2	1230.1	1231.0	1230.8	1230.5	1230.2	1229.9
10°	1214.7	1216.4	1218.2	1218.9	1218.4	1218.0	1217.6	1217.1
12.5°	1200.6	1202.5	1204.5	1205.1	1204.6	1203.9	1203.2	1202.7
15°	1173.7	1175.0	1176.3	1176.7	1176.0	1175.4	1174.7	1174.0
17.5°	1143.0	1143.9	1144.7	1144.9	1144.4	1144.0	1143.6	1143.1
20°	1120.2	1120.9	1121.5	1121.6	1121.2	1120.8	1120.3	1119.8
22.5°	1096.4	1097.6	1098.8	1099.0	1098.2	1097.4	1096.6	1095.8
25°	1057.2	1057.3	1057.6	1057.2	1056.4	1055.5	1054.6	1053.7
27.5°	1013.1	1012.6	1012.0	1011.3	1010.1	1009.0	1007.9	1006.7
30°	982.7	981.8	980.9	980.0	978.8	977.7	976.6	975.5
32.5°	951.9	950.8	949.8	948.7	947.5	946.4	945.3	944.2
35°	903.2	901.6	900.0	898.7	897.6	896.5	895.4	894.3
37.5°	852.2	850.5	848.9	847.3	845.7	844.3	842.8	841.3
40°	816.6	814.5	812.2	810.5	809.4	808.3	807.2	806.1
42.5°	782.2	779.7	777.0	775.4	774.7	773.9	773.2	772.4
45°	729.0	726.5	724.1	722.6	721.8	721.1	720.5	719.8
47.5°	677.4	674.7	671.8	669.7	668.0	666.3	664.6	662.9
50°	641.4	638.3	635.2	632.9	631.6	630.3	629.0	627.6
52.5°	604.5	601.6	598.9	596.7	595.0	593.3	591.6	589.9
55°	550.1	547.4	544.7	542.7	541.4	540.1	538.7	537.3
57.5°	495.6	493.0	490.5	488.6	487.3	486.0	484.7	483.4
60°	458.2	456.2	454.1	452.6	451.5	450.3	449.2	448.2
62.5°	421.6	419.8	418.0	416.5	415.4	414.2	413.2	412.1
65°	368.5	366.3	364.0	362.4	361.3	360.1	359.0	357.9
67.5°	313.8	311.6	309.4	308.2	307.9	307.6	307.3	307.0
70°	279.2	277.4	275.6	274.4	273.7	273.1	272.4	271.7
72.5°	244.6	243.2	241.8	240.7	240.0	239.3	238.7	238.0
75°	194.7	193.8	192.9	192.4	192.2	191.9	191.7	191.5
77.5°	147.4	147.1	146.9	146.5	145.9	145.3	144.8	144.2
80°	117.4	117.0	116.5	116.2	115.9	115.7	115.6	115.3
82.5°	90.5	90.2	89.9	89.7	89.5	89.3	89.1	88.8
85°	52.1	52.1	52.1	52.0	51.8	51.6	51.4	51.1
87.5°	22.7	22.9	23.1	23.2	23.3	23.3	23.4	23.5
90°	17.2	18.2	19.1	19.7	20.1	20.4	20.6	21.0
92.5°	28.8	29.4	30.0	30.3	30.5	30.7	30.9	31.1
95°	54.1	54.6	55.0	55.2	55.2	55.2	55.2	55.2
97.5°	85.2	85.8	86.3	86.6	86.6	86.6	86.6	86.6
100°	107.6	107.9	108.3	108.4	108.4	108.4	108.4	108.4
102.5°	131.4	131.9	132.2	132.5	132.7	132.8	132.9	133.1
105°	167.4	167.9	168.3	168.8	169.3	169.8	170.2	170.7
107.5°	206.4	206.8	207.3	207.5	207.5	207.5	207.4	207.4
110°	232.3	232.1	231.7	231.8	232.2	232.7	233.2	233.7





TEST NUMBER: P332786-830

CATALOG NUMBER: S124DIW-S795D770U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	260.2	260.1	260.1	260.1	260.2	260.3	260.4	260.5
115°	303.3	303.1	302.9	302.8	302.7	302.6	302.4	302.2
117.5°	344.7	344.1	343.6	343.2	342.9	342.5	342.2	342.0
120°	372.7	371.9	371.2	370.9	371.3	371.6	371.8	372.1
122.5°	401.1	400.7	400.1	399.5	399.0	398.4	397.9	397.4
125°	442.9	442.6	442.2	442.0	441.7	441.3	441.0	440.7
127.5°	482.8	482.5	482.1	481.8	481.6	481.4	481.1	480.9
130°	510.8	510.4	510.1	509.6	509.1	508.4	507.7	507.2
132.5°	537.1	536.8	536.4	536.1	535.9	535.6	535.4	535.2
135°	576.5	576.2	575.9	575.5	575.0	574.6	574.1	573.6
137.5°	614.6	614.3	613.9	613.7	613.8	613.9	614.0	614.1
140°	639.8	639.6	639.4	639.3	639.1	638.9	638.9	638.7
142.5°	663.5	663.5	663.5	663.5	663.4	663.4	663.4	663.3
145°	699.3	699.1	698.9	698.6	698.1	697.7	697.2	696.7
147.5°	731.6	731.5	731.3	731.2	731.0	730.9	730.8	730.6
150°	752.1	752.1	752.1	752.0	751.8	751.6	751.5	751.3
152.5°	771.2	771.6	771.9	771.9	771.6	771.2	770.7	770.3
155°	798.1	798.6	799.3	799.3	798.6	798.1	797.4	796.8
157.5°	821.6	822.1	822.6	822.6	822.0	821.5	821.0	820.4
160°	836.2	836.7	837.2	837.0	836.2	835.4	834.6	833.9
162.5°	849.2	850.1	850.9	850.9	850.2	849.4	848.7	847.8
165°	866.5	867.4	868.4	868.6	867.9	867.2	866.7	866.0
167.5°	881.1	881.9	882.9	882.9	881.9	881.0	880.1	879.0
170°	888.9	889.9	890.8	890.7	889.6	888.5	887.4	886.4
172.5°	894.8	895.8	896.8	896.8	895.7	894.7	893.5	892.5
175°	901.1	902.2	903.2	903.2	902.2	901.1	900.0	898.9
177.5°	904.6	905.4	906.3	906.3	905.2	904.3	903.2	902.3
180°	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5

(END OF REPORT)