

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: P332606-935

Luminaire Tested: **S124DIP-S795D810U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332606-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S795D810U935-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5427.1 lumens  
Efficiency: N/A  
Efficacy: 118.2 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

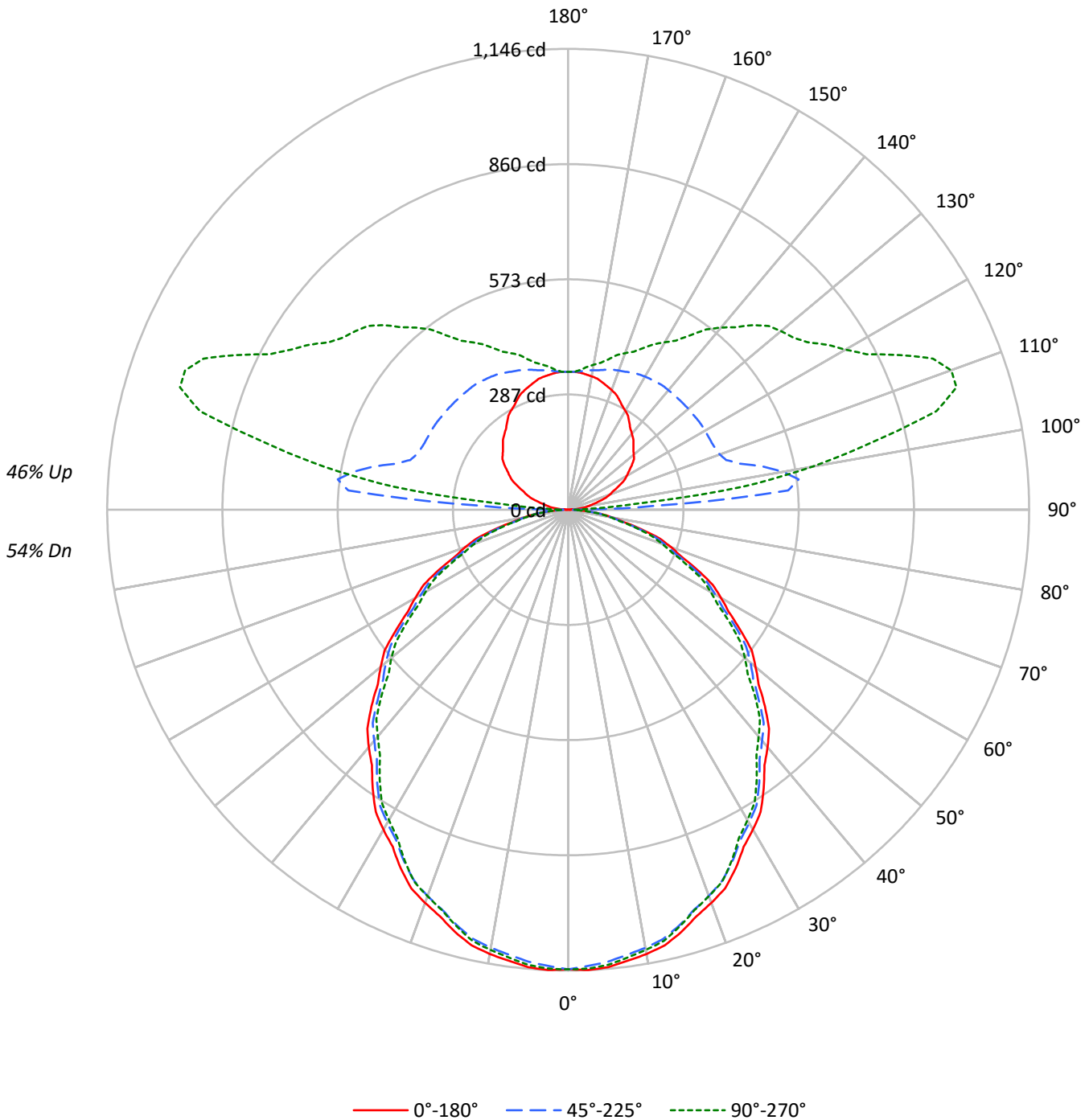
Input Watts (W): 45.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	86	86	86	72	72	72	60	60	60	54
1	99	94	90	87	91	88	84	81	75	73	70	63	62	60	53	52	50	45
2	90	82	76	71	83	77	71	67	66	62	58	56	53	50	46	44	42	38
3	82	72	65	59	76	67	61	56	58	53	49	49	46	42	41	38	36	32
4	75	64	56	50	69	60	53	47	52	46	42	44	40	36	37	34	31	28
5	69	57	49	43	64	53	46	41	46	40	36	39	35	32	33	30	27	24
6	63	51	43	37	59	48	41	35	42	36	31	36	31	28	30	27	24	21
7	59	46	38	33	54	43	36	31	38	32	28	32	28	24	28	24	21	19
8	54	42	34	29	50	39	32	27	34	29	25	30	25	22	25	22	19	17
9	51	38	31	26	47	36	29	25	32	26	22	27	23	20	23	20	17	15
10	47	35	28	23	44	33	27	22	29	24	20	25	21	18	22	18	16	14

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9227	9227	9227
5°	9255	9143	9210
10°	9197	9069	9114
15°	9086	8940	8964
20°	8937	8781	8789
25°	8769	8598	8573
30°	8563	8383	8307
35°	8348	8159	8051
40°	8126	7904	7759
45°	7895	7654	7507
50°	7637	7430	7200
55°	7361	7142	6909
60°	7083	6817	6610
65°	6770	6508	6245
70°	6420	6097	5858
75°	5883	5599	5459
80°	5235	5026	4895
85°	4576	4409	4326



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.6	2.0
10°-20°	303.3	5.6
20°-30°	446.4	8.2
30°-40°	518.9	9.6
40°-50°	518.9	9.6
50°-60°	453.9	8.4
60°-70°	337.1	6.2
70°-80°	191.5	3.5
80°-90°	57.2	1.1
90°-100°	247.5	4.6
100°-110°	515.1	9.5
110°-120°	461.4	8.5
120°-130°	388.1	7.2
130°-140°	323.6	6.0
140°-150°	247.2	4.6
150°-160°	173.8	3.2
160°-170°	102.2	1.9
170°-180°	33.3	0.6
0°-30°	857.3	15.8
0°-40°	1376.2	25.4
0°-60°	2349.1	43.3
0°-90°	2934.9	54.1
90°-120°	1224.0	22.6
90°-150°	2183.0	40.2
90°-180°	2492.0	45.9
0°-180°	5427.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1142	1138	1128	1138	1136	108
15°	1087	1083	1070	1075	1072	306
25°	984	978	965	966	962	453
35°	847	840	828	822	817	529
45°	692	685	670	661	658	533
55°	523	520	507	497	491	468
65°	354	350	341	332	327	351
75°	189	184	180	176	175	200
85°	49	49	48	48	47	54
90°	1	5	12	13	14	4
95°	22	70	549	272	164	25
105°	79	114	442	951	947	84
115°	139	174	394	757	910	138
125°	193	230	392	644	726	172
135°	230	273	388	572	649	177
145°	265	303	386	482	530	166
155°	301	325	376	426	444	139
165°	328	338	360	381	387	93
175°	342	343	345	350	349	32
180°	343	343	343	343	343	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0
2.5°	1145.9	1145.4	1144.9	1144.4	1143.9	1142.8	1141.0	1139.2	1137.4	1135.7	1137.2
5°	1142.0	1141.3	1140.4	1139.6	1138.8	1137.2	1135.0	1132.7	1130.5	1128.3	1130.5
7.5°	1131.4	1130.6	1129.8	1128.9	1128.2	1126.5	1124.0	1121.5	1119.0	1116.5	1118.4
10°	1121.9	1121.1	1120.2	1119.5	1118.6	1116.9	1114.2	1111.6	1109.0	1106.3	1107.9
12.5°	1109.4	1108.6	1107.8	1107.0	1106.2	1104.3	1101.6	1098.7	1096.0	1093.1	1094.9
15°	1087.1	1086.2	1085.5	1084.6	1083.8	1081.9	1078.8	1075.8	1072.7	1069.7	1070.9
17.5°	1060.1	1059.1	1058.1	1057.1	1056.1	1054.1	1051.3	1048.4	1045.4	1042.6	1043.4
20°	1040.3	1039.3	1038.4	1037.3	1036.3	1034.2	1031.2	1028.1	1025.1	1022.1	1022.7
22.5°	1019.2	1017.8	1016.4	1015.1	1013.7	1011.6	1008.5	1005.5	1002.4	999.4	1000.5
25°	984.5	983.1	981.6	980.2	978.8	976.6	973.8	970.9	968.1	965.3	965.4
27.5°	944.9	943.5	942.0	940.6	939.1	937.0	934.4	931.8	929.1	926.4	925.9
30°	918.6	917.0	915.3	913.7	912.1	909.9	907.2	904.7	902.0	899.3	898.5
32.5°	890.7	889.2	887.8	886.3	884.8	882.7	879.9	877.1	874.3	871.5	870.6
35°	847.1	845.7	844.3	842.8	841.5	839.3	836.5	833.6	830.8	827.9	826.5
37.5°	801.2	799.9	798.6	797.3	795.9	793.8	790.7	787.6	784.6	781.5	780.0
40°	771.1	769.5	767.8	766.2	764.6	762.2	759.2	756.1	753.1	750.0	748.0
42.5°	738.9	737.9	736.9	736.0	734.9	732.8	729.4	726.1	722.6	719.3	717.0
45°	691.5	690.0	688.6	687.2	685.8	683.4	680.2	676.9	673.6	670.4	668.1
47.5°	641.8	640.8	639.9	638.9	637.9	635.9	632.9	629.9	626.9	623.9	621.3
50°	608.1	607.3	606.5	605.6	604.9	603.0	600.2	597.4	594.4	591.6	588.8
52.5°	575.1	574.2	573.2	572.2	571.2	569.2	566.2	563.2	560.2	557.2	554.7
55°	523.0	522.3	521.7	521.1	520.5	518.8	515.9	513.1	510.2	507.4	504.9
57.5°	473.1	472.4	471.7	471.1	470.4	468.6	465.8	463.0	460.2	457.4	455.0
60°	438.7	437.6	436.6	435.7	434.6	432.7	430.2	427.5	424.8	422.2	420.3
62.5°	405.0	404.2	403.3	402.4	401.6	399.8	396.9	394.1	391.3	388.5	386.8
65°	354.4	353.4	352.4	351.4	350.3	348.8	346.8	344.7	342.7	340.7	338.6
67.5°	303.5	302.6	301.6	300.7	299.8	298.3	296.4	294.4	292.5	290.5	288.5
70°	272.0	270.6	269.1	267.7	266.3	264.8	263.1	261.5	259.8	258.3	256.7
72.5°	238.3	236.9	235.5	234.0	232.6	231.3	230.0	228.6	227.3	226.0	224.7
75°	188.6	187.6	186.7	185.6	184.6	183.6	182.5	181.5	180.6	179.5	178.7
77.5°	141.2	140.8	140.3	139.9	139.4	138.8	137.8	137.0	136.0	135.2	134.9
80°	112.6	112.0	111.4	110.8	110.2	109.7	109.3	108.9	108.5	108.1	107.6
82.5°	84.8	84.6	84.2	83.9	83.7	83.5	83.4	83.3	83.3	83.2	82.9
85°	49.4	49.4	49.4	49.4	49.4	49.2	48.8	48.5	48.0	47.6	47.6
87.5°	19.2	19.3	19.5	19.5	19.5	19.3	20.0	19.8	19.9	20.0	19.9
90°	0.7	2.0	4.0	4.7	5.4	5.4	9.4	9.4	10.8	12.1	11.5
92.5°	7.7	11.2	17.5	25.7	35.6	49.5	83.8	136.0	186.9	213.5	177.9
95°	22.2	24.2	31.0	39.7	55.9	84.1	142.8	253.1	414.1	548.7	564.2
97.5°	39.9	39.9	45.6	53.7	67.6	91.3	136.4	227.6	387.5	577.9	708.8
100°	51.1	51.1	55.9	64.0	76.7	98.3	138.0	214.1	351.5	541.3	713.6
102.5°	61.9	63.0	67.2	74.7	87.0	107.5	143.4	210.3	327.2	495.5	673.2
105°	78.8	80.8	84.1	92.2	104.4	123.9	156.2	212.1	306.3	441.6	599.9
107.5°	97.4	98.7	102.0	110.6	122.3	141.5	171.2	222.1	302.6	411.5	540.6
110°	109.8	111.1	114.4	122.5	134.7	152.8	182.4	229.5	303.6	401.2	511.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	121.6	123.0	126.8	134.4	146.5	164.7	193.2	237.6	306.9	396.4	494.3
115°	138.7	140.7	145.4	152.1	165.0	183.1	210.1	250.5	313.1	393.8	478.6
117.5°	156.4	158.3	162.6	170.0	181.9	200.8	226.4	263.5	319.7	393.1	471.7
120°	168.3	169.6	174.4	181.8	193.2	212.1	237.6	272.7	324.5	393.1	467.9
122.5°	179.1	180.5	185.1	192.0	204.5	222.8	248.4	281.3	329.3	392.6	463.6
125°	193.2	195.9	199.9	207.3	220.2	239.0	263.2	294.2	336.7	391.8	456.4
127.5°	205.8	207.9	212.8	221.2	234.5	253.6	277.0	305.4	342.4	390.4	446.9
130°	212.8	215.4	220.8	230.9	243.7	263.2	286.1	312.4	346.7	389.8	441.0
132.5°	219.7	221.9	228.9	238.5	252.4	270.8	293.7	319.3	350.5	389.3	435.6
135°	229.5	232.3	239.0	250.5	264.6	282.1	304.3	328.6	356.1	388.5	427.5
137.5°	239.4	241.9	249.3	260.3	274.9	291.6	312.4	335.0	359.5	388.3	420.5
140°	246.4	248.4	255.8	267.3	281.4	297.6	317.8	339.3	362.2	387.8	416.7
142.5°	253.9	256.0	262.9	273.7	287.3	303.0	322.6	342.5	364.4	387.8	413.5
145°	264.6	266.6	273.4	282.8	295.6	310.4	327.9	346.0	365.6	386.4	407.9
147.5°	276.6	277.2	283.2	292.8	303.5	316.8	333.3	349.1	366.3	384.0	403.0
150°	284.1	284.8	290.2	298.3	308.3	321.2	336.0	350.8	366.3	382.4	399.2
152.5°	291.1	291.3	296.6	304.2	313.2	324.9	338.1	351.8	365.2	379.7	394.9
155°	300.9	301.6	305.7	312.4	319.8	329.8	341.3	352.8	363.5	375.7	388.5
157.5°	310.5	310.5	314.3	319.5	326.0	333.9	343.6	352.8	361.8	371.5	381.9
160°	316.4	316.4	319.1	323.8	329.2	336.7	344.7	352.8	360.2	368.2	377.0
162.5°	321.8	321.2	323.4	327.6	332.4	338.2	345.8	352.8	358.6	365.1	372.7
165°	327.9	327.9	329.2	332.6	336.0	340.0	346.0	351.5	355.5	360.2	365.6
167.5°	333.9	333.3	333.9	336.5	338.4	341.5	345.9	349.8	352.2	355.3	359.1
170°	336.7	336.0	336.7	338.6	340.0	342.0	345.3	348.7	350.1	352.1	354.8
172.5°	339.3	338.6	338.8	340.3	341.0	342.5	344.8	347.7	347.9	348.9	351.0
175°	342.0	341.3	341.3	342.0	342.7	342.7	344.1	346.0	345.3	345.3	346.7
177.5°	343.2	342.7	342.2	342.7	342.7	342.7	343.2	344.3	343.2	343.2	343.7
180°	342.7	342.7	342.7	342.7	342.7	342.7	342.7	342.7	342.7	342.7	342.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0
2.5°	1138.8	1140.5	1142.1	1142.9	1142.7	1142.5	1142.4	1142.2
5°	1132.7	1135.0	1137.2	1138.2	1137.7	1137.4	1137.0	1136.5
7.5°	1120.2	1122.0	1123.7	1124.5	1124.3	1124.0	1123.8	1123.5
10°	1109.6	1111.2	1112.8	1113.4	1113.0	1112.6	1112.2	1111.8
12.5°	1096.7	1098.5	1100.3	1100.9	1100.4	1099.8	1099.2	1098.6
15°	1072.1	1073.3	1074.5	1074.9	1074.3	1073.7	1073.1	1072.5
17.5°	1044.1	1044.9	1045.7	1045.9	1045.4	1045.0	1044.7	1044.2
20°	1023.3	1023.9	1024.5	1024.6	1024.2	1023.8	1023.4	1023.0
22.5°	1001.5	1002.6	1003.8	1003.9	1003.2	1002.5	1001.7	1001.0
25°	965.7	965.9	966.1	965.8	965.0	964.1	963.4	962.5
27.5°	925.5	925.0	924.5	923.8	922.7	921.7	920.7	919.6
30°	897.7	896.9	896.0	895.2	894.1	893.1	892.1	891.1
32.5°	869.5	868.6	867.6	866.6	865.6	864.5	863.5	862.5
35°	825.1	823.6	822.2	821.0	819.9	819.0	817.9	816.9
37.5°	778.4	776.9	775.4	774.0	772.6	771.3	769.9	768.5
40°	746.0	744.0	741.9	740.4	739.3	738.4	737.4	736.3
42.5°	714.5	712.2	709.8	708.3	707.7	707.0	706.3	705.6
45°	665.9	663.7	661.4	660.0	659.4	658.8	658.1	657.5
47.5°	618.8	616.3	613.7	611.7	610.2	608.6	607.1	605.5
50°	585.9	583.1	580.2	578.2	577.0	575.8	574.5	573.3
52.5°	552.2	549.6	547.1	545.1	543.5	542.0	540.4	538.9
55°	502.5	500.1	497.6	495.8	494.6	493.4	492.1	490.9
57.5°	452.7	450.4	448.1	446.3	445.1	443.9	442.8	441.6
60°	418.5	416.7	414.8	413.5	412.4	411.4	410.4	409.4
62.5°	385.1	383.5	381.9	380.5	379.4	378.4	377.5	376.4
65°	336.7	334.6	332.5	331.1	330.0	329.0	328.0	326.9
67.5°	286.6	284.6	282.7	281.5	281.3	281.0	280.7	280.4
70°	255.0	253.4	251.8	250.6	250.0	249.4	248.8	248.2
72.5°	223.4	222.1	220.8	219.9	219.2	218.6	218.0	217.4
75°	177.9	177.0	176.2	175.7	175.6	175.3	175.1	175.0
77.5°	134.7	134.4	134.2	133.8	133.3	132.8	132.2	131.7
80°	107.3	106.9	106.4	106.2	105.9	105.7	105.6	105.3
82.5°	82.7	82.4	82.1	82.0	81.8	81.5	81.4	81.1
85°	47.6	47.6	47.6	47.5	47.4	47.1	46.9	46.7
87.5°	20.0	20.1	20.3	20.3	20.4	20.6	20.4	20.4
90°	12.1	12.8	13.4	13.4	14.1	14.8	14.1	14.1
92.5°	132.2	99.5	79.2	65.7	57.8	54.2	51.8	51.8
95°	498.9	394.5	304.3	239.0	206.0	185.1	173.1	164.3
97.5°	737.0	698.3	632.4	562.1	513.8	473.3	453.1	439.1
100°	811.9	825.4	792.4	742.6	684.0	642.9	622.8	617.3
102.5°	808.1	874.9	884.5	863.8	827.9	798.1	776.8	772.5
105°	754.1	870.5	937.1	964.8	966.1	960.7	951.3	947.3
107.5°	677.2	801.2	895.0	955.0	988.3	1003.7	1010.4	1012.1
110°	630.9	747.3	844.9	918.9	966.7	995.1	1007.2	1013.2





TEST NUMBER: P332606-935

CATALOG NUMBER: S124DIP-S795D810U935-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	596.9	699.9	792.1	866.2	920.4	954.7	971.6	981.5
115°	562.8	645.7	724.4	789.0	842.2	882.6	904.1	909.6
117.5°	546.1	614.7	676.6	731.4	776.8	810.7	832.5	836.7
120°	538.6	601.2	655.0	702.8	741.2	770.9	788.3	795.7
122.5°	532.1	592.5	641.6	683.5	715.9	741.2	756.0	763.4
125°	521.1	579.0	625.4	662.5	689.4	708.9	721.7	725.7
127.5°	507.6	562.9	609.2	644.5	671.5	688.9	699.6	703.7
130°	496.9	550.0	595.8	631.5	659.1	676.0	686.7	690.8
132.5°	485.5	535.5	580.2	615.9	642.9	661.9	672.2	676.2
135°	469.9	513.7	554.7	588.4	615.4	634.2	645.0	649.0
137.5°	455.8	492.8	527.4	557.8	583.0	601.6	610.4	615.4
140°	447.7	479.3	509.6	538.0	561.5	576.3	585.7	591.1
142.5°	440.1	468.0	494.0	518.5	539.4	553.1	561.5	565.2
145°	429.6	452.5	472.6	491.5	508.3	519.7	526.5	529.9
147.5°	420.8	438.9	455.1	469.9	482.3	492.1	497.2	498.4
150°	415.3	430.8	444.4	456.4	467.3	476.0	480.0	480.7
152.5°	409.5	422.8	435.1	445.1	454.3	461.4	463.8	464.5
155°	400.5	411.4	421.5	429.6	436.3	441.6	443.7	443.7
157.5°	391.0	400.0	408.5	415.0	420.1	424.1	425.3	425.3
160°	385.1	392.5	399.9	405.3	409.3	413.4	414.1	414.1
162.5°	379.2	385.5	391.3	396.1	399.1	403.1	403.8	403.3
165°	370.9	375.0	379.7	383.1	385.7	388.5	387.8	387.1
167.5°	363.0	366.1	369.9	371.9	373.2	375.0	374.9	374.3
170°	358.2	360.2	362.9	364.9	366.3	366.9	366.3	366.3
172.5°	353.9	355.3	357.0	358.4	359.2	359.9	359.2	358.2
175°	348.1	348.7	350.1	350.1	350.1	351.5	350.1	348.7
177.5°	344.3	344.8	344.8	345.3	344.8	345.3	344.3	343.2
180°	342.7	342.7	342.7	342.7	342.7	342.7	342.7	342.7

(END OF REPORT)