

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: P332790-940

Luminaire Tested: **S124DIW-S795D1050U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332790-940  
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-S795D1050U940-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6131.4 lumens  
Efficiency: N/A  
Efficacy: 116.6 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

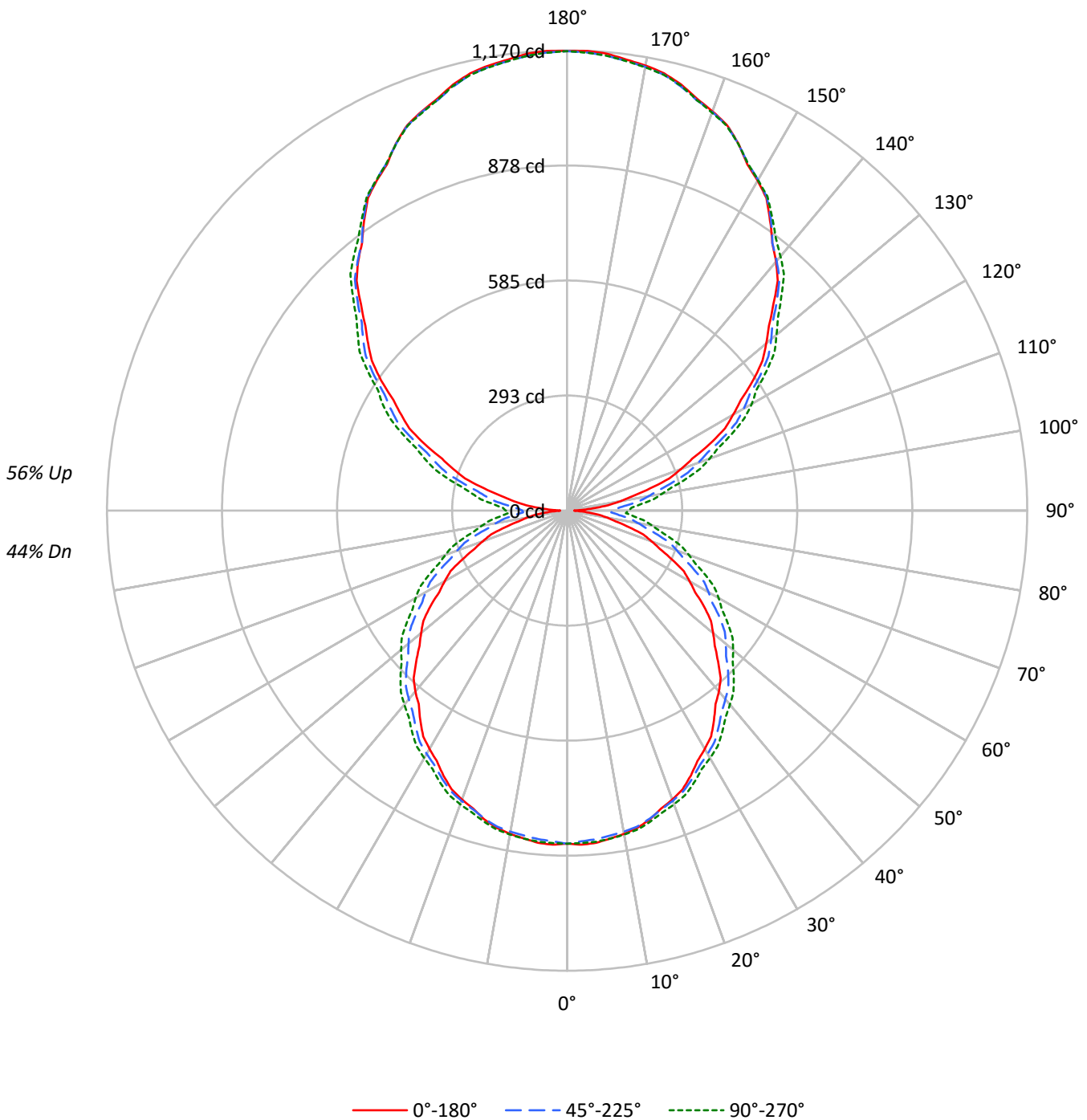
Input Watts (W): 52.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44
1	95	91	87	83	87	83	79	76	69	66	64	55	53	52	43	42	41	35
2	87	79	72	67	79	72	66	62	60	55	52	48	45	42	37	35	33	28
3	79	69	61	55	72	63	56	51	52	47	43	42	39	35	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	36	31	33	29	26	26	23	21	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	23	24	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	25	21	41	30	24	19	25	20	17	21	17	14	17	14	12	10

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

	0°	45°	90°
0°	6838	6838	6838
5°	6859	6683	6702
10°	6817	6573	6568
15°	6756	6446	6411
20°	6664	6307	6259
25°	6560	6151	6092
30°	6448	5995	5919
35°	6321	5835	5768
40°	6219	5684	5610
45°	6067	5543	5475
50°	5939	5383	5333
55°	5808	5231	5164
60°	5601	5036	5013
65°	5376	4829	4824
70°	5101	4592	4605
75°	4723	4331	4407
80°	4295	4081	4213
85°	3763	3857	4101



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.2	1.3
10°-20°	229.8	3.7
20°-30°	347.5	5.7
30°-40°	420.4	6.9
40°-50°	444.5	7.2
50°-60°	418.3	6.8
60°-70°	347.1	5.7
70°-80°	243.8	4.0
80°-90°	141.3	2.3
90°-100°	158.9	2.6
100°-110°	288.8	4.7
110°-120°	428.0	7.0
120°-130°	533.7	8.7
130°-140°	583.5	9.5
140°-150°	565.7	9.2
150°-160°	474.1	7.7
160°-170°	315.4	5.1
170°-180°	110.5	1.8
0°-30°	657.5	10.7
0°-40°	1077.9	17.6
0°-60°	1940.7	31.7
0°-90°	2672.9	43.6
90°-120°	875.7	14.3
90°-150°	2558.6	41.7
90°-180°	3459.0	56.4
0°-180°	6131.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	847	847	847	847	847	
5°	848	845	838	846	845	80
15°	813	814	811	819	818	229
25°	744	749	752	762	764	342
35°	651	662	672	684	688	407
45°	542	561	578	594	599	419
55°	425	445	473	492	498	378
65°	294	324	357	379	388	291
75°	163	198	238	264	273	174
85°	50	90	133	160	171	54
90°	18	66	114	145	156	13
95°	66	106	151	178	188	70
105°	219	240	278	303	314	233
115°	400	409	437	456	462	394
125°	577	578	599	615	619	515
135°	742	747	754	767	770	574
145°	900	902	903	908	909	563
155°	1030	1030	1029	1032	1029	474
165°	1121	1118	1116	1121	1118	316
175°	1166	1162	1161	1166	1161	111
180°	1168	1168	1168	1168	1168	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0
2.5°	850.1	849.5	849.0	848.6	848.0	847.1	845.7	844.4	843.0	841.7	842.8
5°	847.9	847.3	846.7	846.1	845.4	844.4	842.8	841.4	839.9	838.5	840.2
7.5°	840.7	840.3	840.0	839.6	839.2	838.4	837.2	836.0	834.7	833.6	835.4
10°	834.6	834.5	834.3	834.0	833.8	833.2	832.1	831.1	830.0	828.9	830.9
12.5°	826.3	826.3	826.3	826.2	826.2	825.8	825.1	824.3	823.6	822.9	824.7
15°	812.9	813.1	813.2	813.5	813.7	813.5	812.9	812.3	811.5	810.9	812.9
17.5°	794.4	795.0	795.7	796.4	797.0	797.2	797.1	797.0	796.8	796.7	798.7
20°	781.6	782.2	782.8	783.5	784.1	784.5	784.7	784.9	785.2	785.3	787.5
22.5°	767.1	767.9	768.7	769.5	770.3	771.0	771.3	771.7	772.0	772.5	774.5
25°	743.6	744.8	746.2	747.4	748.7	749.7	750.3	750.9	751.5	752.2	754.5
27.5°	717.5	719.3	721.1	723.0	724.9	726.3	727.3	728.2	729.2	730.1	732.3
30°	700.0	701.7	703.4	705.1	706.8	708.3	709.8	711.2	712.7	714.2	716.5
32.5°	681.0	683.1	685.1	687.1	689.1	690.9	692.6	694.2	695.9	697.5	700.2
35°	650.7	653.2	655.8	658.3	660.8	663.1	665.2	667.4	669.4	671.5	674.5
37.5°	620.1	623.0	626.0	628.8	631.8	634.5	637.1	639.7	642.4	645.0	648.0
40°	600.4	603.2	605.8	608.6	611.4	614.2	617.2	620.1	623.0	626.0	629.2
42.5°	577.7	580.7	583.8	586.8	590.0	593.2	596.6	600.1	603.6	607.0	610.6
45°	542.5	546.5	550.5	554.6	558.6	562.6	566.6	570.6	574.5	578.5	582.2
47.5°	509.0	513.1	517.2	521.4	525.5	529.9	534.5	539.1	543.8	548.4	552.1
50°	484.6	489.3	493.9	498.6	503.2	507.8	512.5	517.1	521.7	526.4	530.7
52.5°	460.4	465.0	469.7	474.3	478.9	483.9	489.2	494.5	499.9	505.2	509.3
55°	424.9	429.4	433.8	438.2	442.6	448.0	454.3	460.7	467.0	473.3	477.5
57.5°	385.3	390.7	396.3	401.7	407.2	413.0	419.4	425.6	431.9	438.2	443.2
60°	359.4	365.0	370.4	375.9	381.4	387.6	394.6	401.5	408.5	415.4	420.3
62.5°	334.4	340.5	346.4	352.4	358.4	364.9	371.8	378.8	385.8	392.7	397.5
65°	294.0	300.8	307.6	314.2	321.0	328.0	335.1	342.3	349.5	356.6	361.9
67.5°	255.1	262.3	269.5	276.6	283.8	291.2	298.9	306.6	314.2	321.9	327.3
70°	228.5	235.8	242.9	250.1	257.3	264.8	272.9	280.9	288.8	296.9	302.6
72.5°	202.8	210.1	217.5	224.8	232.1	240.0	248.6	257.1	265.6	274.1	279.6
75°	163.2	170.9	178.7	186.5	194.3	202.7	211.5	220.3	229.3	238.1	244.0
77.5°	126.2	134.4	142.7	151.0	159.2	168.0	177.3	186.5	195.8	205.1	211.1
80°	103.3	111.8	120.2	128.7	137.1	146.0	155.2	164.5	173.8	183.1	189.4
82.5°	80.6	89.3	98.2	106.9	115.7	124.8	134.0	143.3	152.6	161.8	168.3
85°	50.3	59.1	67.9	76.9	85.7	94.9	104.3	113.8	123.3	132.8	139.1
87.5°	28.6	37.6	46.7	55.7	64.7	74.1	83.6	93.2	102.7	112.3	118.7
90°	17.9	28.5	39.1	49.8	60.5	71.1	81.8	92.5	103.1	113.8	121.1
92.5°	33.7	43.9	53.9	64.1	74.2	84.4	94.5	104.8	114.9	125.1	131.8
95°	66.5	75.3	84.1	92.8	101.6	111.0	121.0	131.1	141.2	151.1	157.5
97.5°	105.8	113.3	120.7	128.1	135.6	144.4	154.6	164.8	175.0	185.2	191.5
100°	136.9	143.2	149.5	155.8	162.0	170.2	180.2	190.2	200.3	210.3	216.4
102.5°	170.1	175.3	180.4	185.6	190.6	198.0	207.8	217.5	227.1	236.8	242.9
105°	219.0	223.5	227.8	232.3	236.7	243.2	251.8	260.4	269.0	277.6	283.5
107.5°	272.2	275.8	279.6	283.2	287.0	292.5	300.0	307.5	315.0	322.5	328.2
110°	307.5	310.9	314.2	317.5	320.9	326.2	333.3	340.5	347.7	354.9	359.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	344.3	347.1	349.7	352.4	355.1	359.8	366.5	373.1	379.8	386.5	391.1
115°	399.6	401.4	403.3	405.3	407.2	411.3	417.6	423.9	430.3	436.7	441.0
117.5°	452.5	453.8	455.0	456.4	457.6	461.3	467.3	473.3	479.3	485.4	489.0
120°	487.1	488.6	490.0	491.4	492.8	496.3	501.9	507.4	512.9	518.4	521.6
122.5°	524.0	524.4	524.9	525.3	525.8	528.8	534.2	539.8	545.2	550.7	554.3
125°	577.4	577.2	577.0	576.8	576.6	579.0	584.1	589.2	594.2	599.3	602.9
127.5°	626.5	627.0	627.3	627.8	628.1	630.2	633.9	637.7	641.3	645.1	648.5
130°	660.5	660.8	661.3	661.6	662.0	664.0	667.3	670.7	674.0	677.4	680.8
132.5°	695.9	696.2	696.3	696.6	696.8	698.2	700.7	703.3	705.8	708.4	711.6
135°	741.7	743.0	744.1	745.4	746.5	747.9	749.4	750.8	752.3	753.8	756.8
137.5°	792.6	793.0	793.4	793.7	794.1	794.8	795.9	796.8	797.9	799.0	801.5
140°	826.6	826.8	827.1	827.2	827.4	827.6	827.9	828.0	828.2	828.5	831.0
142.5°	856.9	857.3	857.6	858.0	858.4	858.4	858.2	857.8	857.6	857.3	859.6
145°	899.7	900.4	901.0	901.5	902.1	902.5	902.8	902.9	903.1	903.3	904.4
147.5°	942.4	943.2	943.9	944.7	945.4	945.7	945.6	945.4	945.2	945.0	945.1
150°	968.4	969.0	969.6	970.2	970.8	971.1	971.1	971.1	971.1	971.1	971.1
152.5°	992.2	992.7	993.1	993.5	994.0	994.3	994.4	994.6	994.8	995.0	995.4
155°	1029.8	1029.8	1029.8	1029.8	1029.8	1029.7	1029.5	1029.3	1029.1	1028.9	1029.7
157.5°	1061.6	1061.2	1060.9	1060.5	1060.2	1060.0	1059.9	1059.9	1059.8	1059.8	1060.4
160°	1080.4	1080.2	1080.0	1079.8	1079.6	1079.4	1079.1	1079.0	1078.8	1078.6	1079.1
162.5°	1097.7	1097.3	1096.7	1096.2	1095.6	1095.3	1095.1	1094.9	1094.7	1094.5	1095.6
165°	1121.1	1120.4	1119.8	1119.3	1118.7	1118.1	1117.8	1117.3	1117.0	1116.5	1117.8
167.5°	1138.9	1138.1	1137.3	1136.4	1135.6	1135.1	1135.2	1135.2	1135.2	1135.3	1136.5
170°	1149.1	1148.1	1147.0	1146.0	1145.0	1144.6	1144.9	1145.0	1145.2	1145.4	1146.7
172.5°	1156.3	1155.4	1154.6	1153.8	1152.9	1152.5	1152.5	1152.6	1152.6	1152.6	1154.1
175°	1166.2	1165.2	1164.2	1163.2	1162.2	1161.6	1161.4	1161.2	1161.0	1160.8	1162.2
177.5°	1169.5	1168.7	1167.9	1167.1	1166.3	1165.8	1165.8	1165.8	1165.8	1165.8	1167.0
180°	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	847.0	847.0	847.0	847.0	847.0	847.0	847.0	847.0
2.5°	844.0	845.3	846.4	846.9	846.8	846.6	846.4	846.2
5°	841.9	843.6	845.2	846.0	845.7	845.5	845.3	845.1
7.5°	837.3	839.2	841.2	842.0	841.8	841.5	841.3	841.2
10°	832.8	834.6	836.6	837.4	837.2	837.0	836.8	836.6
12.5°	826.3	828.1	829.8	830.6	830.6	830.5	830.5	830.5
15°	814.8	816.6	818.5	819.4	819.2	818.9	818.8	818.5
17.5°	800.6	802.5	804.5	805.4	805.2	805.0	804.9	804.7
20°	789.5	791.7	793.8	794.9	794.9	794.9	794.9	794.9
22.5°	776.7	778.7	780.9	782.1	782.5	782.7	783.1	783.5
25°	756.8	759.1	761.4	762.7	762.9	763.1	763.3	763.6
27.5°	734.4	736.6	738.8	739.9	740.2	740.5	740.7	740.9
30°	718.8	721.1	723.4	724.9	725.3	725.7	726.1	726.6
32.5°	702.8	705.5	708.1	709.7	710.1	710.5	711.0	711.4
35°	677.4	680.4	683.3	685.1	685.7	686.3	687.1	687.7
37.5°	650.9	654.0	656.9	658.8	659.4	660.1	660.8	661.5
40°	632.3	635.5	638.6	640.6	641.5	642.3	643.2	644.0
42.5°	614.0	617.5	621.0	623.1	623.8	624.5	625.2	625.8
45°	585.8	589.3	592.9	595.2	596.3	597.4	598.4	599.4
47.5°	555.8	559.5	563.3	565.7	567.0	568.3	569.5	570.8
50°	534.8	539.0	543.2	546.0	547.2	548.6	549.8	551.1
52.5°	513.6	517.8	522.0	524.8	526.0	527.3	528.5	529.9
55°	481.7	486.0	490.2	492.9	494.2	495.4	496.7	497.9
57.5°	448.3	453.3	458.3	461.4	462.5	463.7	464.9	466.1
60°	425.2	430.0	434.8	438.1	439.8	441.5	443.2	444.9
62.5°	402.3	407.2	412.1	415.4	417.1	418.7	420.4	422.0
65°	367.2	372.5	377.7	381.2	382.9	384.6	386.2	387.9
67.5°	332.6	338.0	343.3	346.8	348.5	350.1	351.8	353.4
70°	308.3	314.0	319.7	323.2	324.7	326.2	327.6	329.1
72.5°	285.2	290.7	296.2	299.8	301.4	303.1	304.7	306.4
75°	249.9	255.7	261.7	265.6	267.5	269.4	271.3	273.1
77.5°	217.0	223.0	229.0	233.0	235.1	237.0	239.1	241.1
80°	195.7	202.1	208.4	212.3	214.0	215.7	217.4	219.1
82.5°	174.8	181.3	187.8	192.0	193.8	195.6	197.5	199.4
85°	145.4	151.8	158.1	162.3	164.4	166.5	168.6	170.8
87.5°	125.0	131.3	137.7	141.9	143.7	145.7	147.7	149.6
90°	128.4	135.7	143.0	147.8	149.8	151.9	154.0	156.1
92.5°	138.5	145.1	151.8	156.0	158.0	160.0	161.8	163.8
95°	163.7	170.0	176.4	180.5	182.4	184.2	186.1	188.1
97.5°	197.7	203.9	210.2	214.2	216.1	217.8	219.6	221.5
100°	222.5	228.5	234.7	238.4	240.0	241.4	242.9	244.3
102.5°	249.1	255.1	261.2	265.1	267.0	268.8	270.5	272.3
105°	289.4	295.2	301.0	305.1	307.5	309.8	312.0	314.3
107.5°	334.0	339.7	345.4	349.1	350.6	352.0	353.6	355.0
110°	363.7	368.2	372.6	376.0	378.4	380.6	382.9	385.2





TEST NUMBER: P332790-940

CATALOG NUMBER: S124DIW-S795D1050U940-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	395.7	400.3	404.9	408.1	409.9	411.7	413.5	415.4
115°	445.5	450.0	454.4	457.3	458.5	459.8	461.0	462.4
117.5°	492.8	496.4	500.2	502.7	503.9	505.2	506.5	507.7
120°	524.8	528.0	531.2	533.9	536.0	538.1	540.1	542.2
122.5°	557.8	561.3	564.8	567.0	567.8	568.6	569.4	570.2
125°	606.5	610.1	613.7	615.9	616.8	617.7	618.5	619.4
127.5°	651.8	655.2	658.6	660.9	662.0	663.2	664.2	665.3
130°	684.2	687.6	691.0	692.9	693.4	693.8	694.3	694.7
132.5°	714.8	718.0	721.2	723.4	724.2	725.2	726.1	727.1
135°	759.7	762.7	765.7	767.5	768.1	768.8	769.5	770.2
137.5°	804.1	806.6	809.1	811.0	812.2	813.3	814.6	815.7
140°	833.6	836.1	838.7	840.3	841.2	842.0	842.8	843.7
142.5°	862.0	864.3	866.7	868.3	869.2	870.0	870.8	871.7
145°	905.4	906.5	907.6	908.2	908.5	908.7	909.0	909.2
147.5°	945.1	945.1	945.1	945.4	945.8	946.3	946.7	947.3
150°	971.1	971.1	971.1	971.0	970.8	970.6	970.4	970.2
152.5°	995.9	996.4	996.8	996.8	996.3	995.8	995.2	994.8
155°	1030.6	1031.4	1032.2	1032.2	1031.4	1030.6	1029.7	1028.9
157.5°	1061.0	1061.6	1062.2	1062.2	1061.5	1060.8	1060.2	1059.4
160°	1079.8	1080.4	1081.0	1080.8	1079.8	1078.8	1077.8	1076.7
162.5°	1096.6	1097.7	1098.9	1098.9	1097.9	1096.9	1095.8	1094.8
165°	1118.9	1120.2	1121.3	1121.5	1120.7	1119.9	1119.1	1118.3
167.5°	1137.7	1138.9	1140.1	1140.1	1138.9	1137.6	1136.4	1135.1
170°	1147.8	1149.1	1150.2	1150.1	1148.8	1147.4	1145.9	1144.5
172.5°	1155.4	1156.7	1158.2	1158.1	1156.7	1155.3	1153.9	1152.4
175°	1163.6	1165.0	1166.4	1166.4	1165.0	1163.6	1162.2	1160.8
177.5°	1168.1	1169.2	1170.4	1170.3	1168.9	1167.7	1166.4	1165.1
180°	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1

(END OF REPORT)