

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: P332790-840

Luminaire Tested: **S124DIW-S795D1050U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332790-840  
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-S795D1050U840-4F0-1E-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**

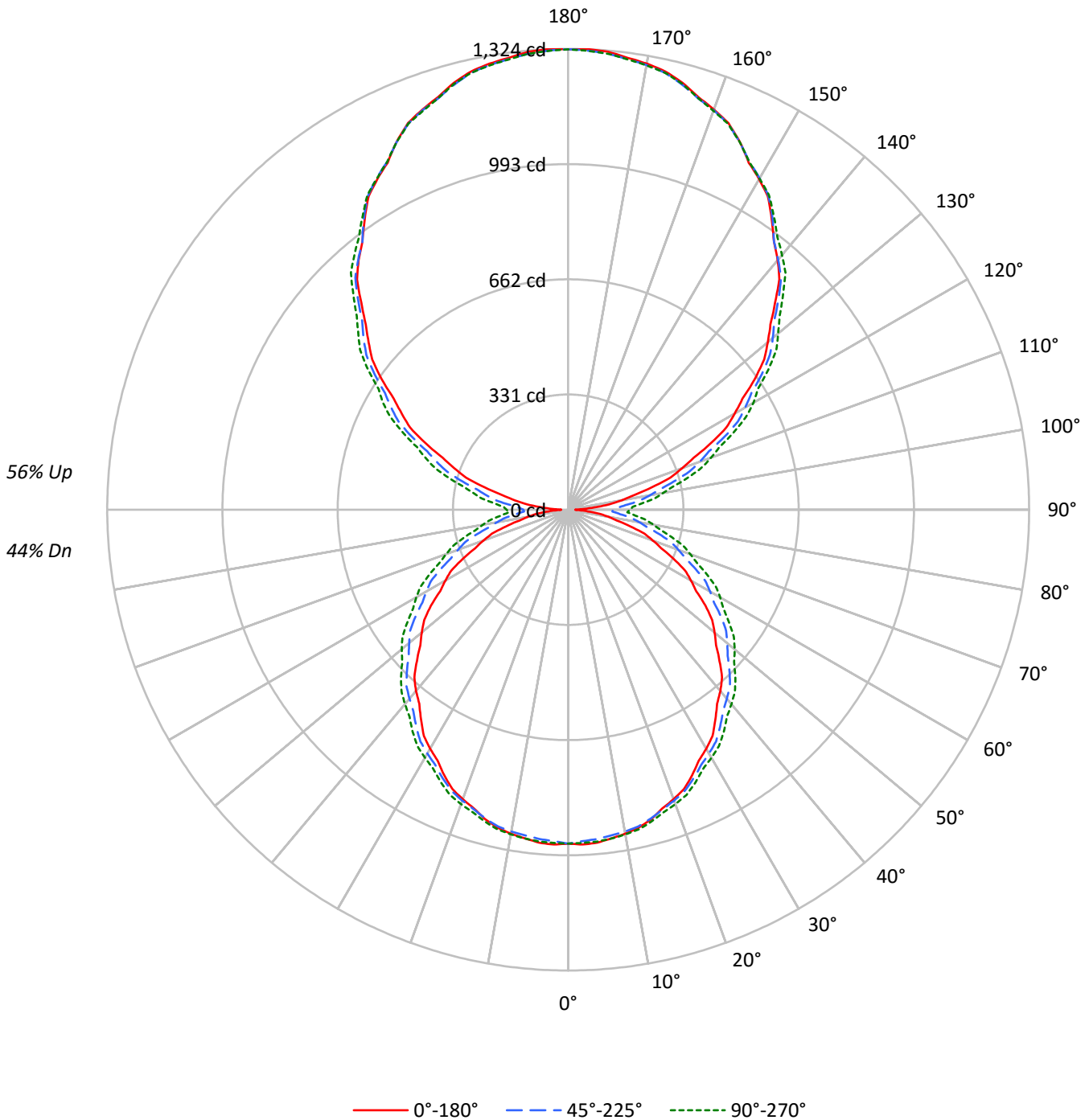
Lumens per Lamp: N/A  
Luminaire Lumens: 6943.8 lumens  
Efficiency: N/A  
Efficacy: 132.0 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 52.6  
Input Voltage (V): 120  
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°	7744	7744	7744
5°	7768	7569	7589
10°	7720	7444	7439
15°	7651	7301	7261
20°	7547	7143	7089
25°	7429	6965	6898
30°	7302	6789	6703
35°	7158	6609	6532
40°	7042	6436	6353
45°	6871	6278	6200
50°	6727	6095	6039
55°	6577	5924	5849
60°	6344	5704	5676
65°	6089	5468	5463
70°	5778	5200	5215
75°	5348	4904	4991
80°	4865	4620	4771
85°	4264	4369	4644



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.8	1.3
10°-20°	260.3	3.7
20°-30°	393.5	5.7
30°-40°	476.1	6.9
40°-50°	503.4	7.2
50°-60°	473.7	6.8
60°-70°	393.1	5.7
70°-80°	276.1	4.0
80°-90°	160.0	2.3
90°-100°	179.9	2.6
100°-110°	327.1	4.7
110°-120°	484.7	7.0
120°-130°	604.4	8.7
130°-140°	660.8	9.5
140°-150°	640.6	9.2
150°-160°	536.9	7.7
160°-170°	357.2	5.1
170°-180°	125.1	1.8
0°-30°	744.6	10.7
0°-40°	1220.8	17.6
0°-60°	2197.9	31.7
0°-90°	3027.0	43.6
90°-120°	991.7	14.3
90°-150°	2897.6	41.7
90°-180°	3917.0	56.4
0°-180°	6943.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	959	959	959	959	959	
5°	960	957	950	958	957	91
15°	921	921	918	928	927	259
25°	842	848	852	863	865	388
35°	737	750	760	775	779	461
45°	614	635	655	673	679	475
55°	481	504	536	557	564	429
65°	333	368	404	430	439	330
75°	185	225	270	299	309	196
85°	57	102	150	181	193	61
90°	20	74	129	165	177	15
95°	75	120	171	202	213	79
105°	248	272	314	343	356	264
115°	452	463	494	516	524	446
125°	654	654	679	696	702	583
135°	840	846	854	868	872	650
145°	1019	1022	1023	1028	1030	638
155°	1166	1166	1165	1169	1165	536
165°	1270	1267	1264	1270	1266	358
175°	1321	1316	1315	1321	1315	125
180°	1323	1323	1323	1323	1323	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3
2.5°	962.7	962.1	961.5	961.0	960.4	959.4	957.8	956.2	954.7	953.2	954.5
5°	960.3	959.6	958.9	958.2	957.5	956.2	954.5	952.9	951.2	949.6	951.5
7.5°	952.1	951.7	951.3	950.9	950.4	949.5	948.2	946.7	945.3	944.0	946.1
10°	945.2	945.0	944.8	944.5	944.3	943.6	942.4	941.2	940.0	938.8	941.0
12.5°	935.8	935.7	935.7	935.6	935.6	935.2	934.4	933.5	932.7	931.9	933.9
15°	920.6	920.8	921.0	921.3	921.5	921.3	920.6	919.9	919.1	918.4	920.6
17.5°	899.7	900.4	901.1	901.9	902.6	902.8	902.7	902.6	902.4	902.3	904.5
20°	885.1	885.9	886.6	887.3	888.0	888.5	888.7	888.9	889.2	889.4	891.8
22.5°	868.8	869.7	870.6	871.5	872.4	873.1	873.5	873.9	874.3	874.8	877.2
25°	842.1	843.5	845.1	846.5	847.9	849.0	849.7	850.4	851.1	851.8	854.4
27.5°	812.5	814.6	816.7	818.8	820.9	822.5	823.6	824.7	825.8	826.9	829.3
30°	792.7	794.7	796.6	798.5	800.4	802.1	803.9	805.5	807.2	808.8	811.4
32.5°	771.2	773.6	775.9	778.1	780.4	782.4	784.4	786.2	788.1	789.9	792.9
35°	736.9	739.7	742.7	745.5	748.3	750.9	753.4	755.8	758.1	760.5	763.9
37.5°	702.3	705.6	708.9	712.2	715.5	718.6	721.5	724.5	727.5	730.4	733.9
40°	679.9	683.1	686.1	689.2	692.4	695.6	698.9	702.3	705.6	708.9	712.6
42.5°	654.2	657.6	661.2	664.6	668.1	671.8	675.7	679.6	683.6	687.4	691.5
45°	614.4	618.9	623.5	628.0	632.6	637.1	641.7	646.2	650.7	655.2	659.3
47.5°	576.4	581.1	585.7	590.5	595.1	600.1	605.3	610.6	615.8	621.1	625.3
50°	548.9	554.1	559.4	564.6	569.9	575.1	580.4	585.6	590.9	596.1	601.0
52.5°	521.4	526.6	531.9	537.1	542.4	548.1	554.0	560.1	566.1	572.1	576.8
55°	481.2	486.3	491.3	496.2	501.3	507.4	514.5	521.7	528.9	536.0	540.8
57.5°	436.4	442.5	448.8	454.9	461.1	467.8	474.9	482.0	489.2	496.2	501.9
60°	407.1	413.3	419.5	425.8	431.9	439.0	446.9	454.7	462.6	470.5	475.9
62.5°	378.7	385.6	392.3	399.1	405.9	413.2	421.1	429.0	436.9	444.7	450.2
65°	333.0	340.6	348.3	355.9	363.6	371.4	379.5	387.7	395.8	403.8	409.8
67.5°	288.9	297.1	305.2	313.3	321.4	329.8	338.5	347.2	355.9	364.6	370.6
70°	258.8	267.0	275.1	283.3	291.3	299.9	309.0	318.1	327.1	336.2	342.6
72.5°	229.6	237.9	246.3	254.6	262.9	271.9	281.6	291.1	300.8	310.4	316.7
75°	184.8	193.6	202.4	211.3	220.0	229.5	239.5	249.5	259.6	269.6	276.3
77.5°	142.9	152.2	161.6	171.0	180.3	190.3	200.8	211.3	221.8	232.3	239.0
80°	117.0	126.6	136.1	145.7	155.3	165.3	175.8	186.3	196.8	207.3	214.5
82.5°	91.3	101.2	111.2	121.1	131.0	141.3	151.8	162.3	172.8	183.3	190.6
85°	57.0	67.0	77.0	87.1	97.0	107.4	118.2	128.9	139.7	150.4	157.5
87.5°	32.4	42.6	52.9	63.1	73.3	83.9	94.7	105.5	116.3	127.1	134.4
90°	20.3	32.3	44.3	56.5	68.5	80.5	92.6	104.7	116.7	128.9	137.1
92.5°	38.2	49.7	61.1	72.6	84.0	95.5	107.0	118.7	130.2	141.7	149.3
95°	75.3	85.2	95.2	105.1	115.0	125.7	137.0	148.5	159.9	171.2	178.3
97.5°	119.9	128.4	136.7	145.1	153.6	163.5	175.1	186.6	198.2	209.7	216.8
100°	155.0	162.2	169.3	176.4	183.5	192.8	204.1	215.4	226.8	238.1	245.1
102.5°	192.7	198.5	204.3	210.2	215.9	224.3	235.3	246.3	257.2	268.2	275.1
105°	248.0	253.1	258.0	263.1	268.0	275.4	285.2	294.9	304.7	314.4	321.0
107.5°	308.2	312.4	316.6	320.7	325.0	331.2	339.7	348.2	356.8	365.3	371.7
110°	348.2	352.0	355.9	359.6	363.5	369.4	377.5	385.7	393.7	401.9	407.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	389.9	393.0	396.1	399.1	402.1	407.5	415.1	422.5	430.1	437.7	442.9
115°	452.5	454.6	456.8	459.0	461.1	465.7	472.9	480.1	487.3	494.5	499.5
117.5°	512.4	513.9	515.3	516.8	518.3	522.4	529.3	536.0	542.8	549.7	553.8
120°	551.7	553.3	554.9	556.5	558.2	562.1	568.4	574.6	580.9	587.0	590.7
122.5°	593.4	593.9	594.4	594.9	595.4	598.8	605.0	611.3	617.4	623.7	627.7
125°	653.9	653.7	653.5	653.2	653.0	655.7	661.5	667.2	673.0	678.7	682.8
127.5°	709.5	710.0	710.4	710.9	711.3	713.7	717.9	722.2	726.3	730.5	734.4
130°	748.0	748.4	748.9	749.3	749.7	751.9	755.7	759.5	763.4	767.2	771.0
132.5°	788.1	788.4	788.6	788.9	789.1	790.7	793.6	796.5	799.3	802.2	805.9
135°	840.0	841.4	842.7	844.1	845.5	847.0	848.7	850.3	852.0	853.6	857.1
137.5°	897.7	898.1	898.5	898.9	899.3	900.1	901.3	902.4	903.6	904.8	907.7
140°	936.1	936.3	936.6	936.9	937.1	937.3	937.6	937.8	938.0	938.3	941.1
142.5°	970.5	970.9	971.3	971.7	972.1	972.2	971.9	971.5	971.2	970.9	973.5
145°	1019.0	1019.7	1020.4	1021.0	1021.7	1022.1	1022.4	1022.6	1022.8	1023.0	1024.2
147.5°	1067.3	1068.1	1068.9	1069.9	1070.7	1071.1	1070.9	1070.7	1070.5	1070.3	1070.4
150°	1096.7	1097.4	1098.1	1098.7	1099.4	1099.7	1099.7	1099.7	1099.7	1099.7	1099.7
152.5°	1123.7	1124.2	1124.7	1125.2	1125.7	1126.0	1126.2	1126.4	1126.6	1126.8	1127.3
155°	1166.3	1166.3	1166.3	1166.3	1166.3	1166.2	1165.9	1165.7	1165.5	1165.3	1166.2
157.5°	1202.2	1201.8	1201.4	1201.0	1200.6	1200.4	1200.3	1200.3	1200.2	1200.2	1200.9
160°	1223.6	1223.4	1223.0	1222.8	1222.6	1222.4	1222.1	1221.9	1221.7	1221.5	1222.1
162.5°	1243.1	1242.6	1242.0	1241.4	1240.8	1240.4	1240.2	1240.0	1239.7	1239.5	1240.7
165°	1269.6	1268.9	1268.2	1267.6	1266.9	1266.3	1265.9	1265.4	1265.0	1264.5	1265.9
167.5°	1289.8	1288.9	1288.0	1287.0	1286.1	1285.6	1285.7	1285.7	1285.7	1285.8	1287.1
170°	1301.3	1300.2	1299.0	1297.9	1296.8	1296.3	1296.6	1296.8	1297.0	1297.2	1298.6
172.5°	1309.5	1308.5	1307.6	1306.7	1305.7	1305.3	1305.3	1305.4	1305.4	1305.4	1307.0
175°	1320.7	1319.6	1318.5	1317.4	1316.2	1315.6	1315.2	1315.0	1314.8	1314.6	1316.2
177.5°	1324.4	1323.5	1322.6	1321.7	1320.8	1320.3	1320.3	1320.3	1320.3	1320.3	1321.6
180°	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	959.3	959.3	959.3	959.3	959.3	959.3	959.3	959.3
2.5°	955.8	957.3	958.6	959.2	959.0	958.8	958.6	958.4
5°	953.4	955.3	957.2	958.1	957.8	957.6	957.4	957.0
7.5°	948.3	950.4	952.6	953.5	953.3	953.0	952.8	952.6
10°	943.1	945.2	947.5	948.4	948.2	947.9	947.7	947.5
12.5°	935.8	937.9	939.8	940.7	940.7	940.6	940.6	940.5
15°	922.7	924.8	927.0	928.0	927.8	927.5	927.3	927.0
17.5°	906.7	908.9	911.1	912.1	911.9	911.7	911.5	911.3
20°	894.1	896.6	899.0	900.2	900.2	900.2	900.2	900.2
22.5°	879.6	881.9	884.3	885.8	886.2	886.5	886.9	887.3
25°	857.1	859.7	862.3	863.7	863.9	864.2	864.4	864.7
27.5°	831.7	834.1	836.7	838.0	838.3	838.6	838.9	839.1
30°	814.1	816.7	819.3	820.9	821.4	821.8	822.3	822.8
32.5°	796.0	799.0	801.9	803.8	804.2	804.7	805.2	805.7
35°	767.2	770.5	773.9	775.9	776.6	777.3	778.1	778.8
37.5°	737.2	740.6	744.0	746.1	746.8	747.6	748.3	749.1
40°	716.1	719.7	723.3	725.5	726.5	727.4	728.4	729.3
42.5°	695.4	699.3	703.3	705.7	706.4	707.2	708.0	708.7
45°	663.4	667.4	671.5	674.1	675.3	676.5	677.7	678.8
47.5°	629.4	633.7	637.9	640.7	642.2	643.6	645.0	646.4
50°	605.7	610.5	615.2	618.3	619.8	621.3	622.7	624.1
52.5°	581.7	586.4	591.2	594.3	595.7	597.1	598.5	600.1
55°	545.5	550.4	555.1	558.3	559.7	561.1	562.5	563.9
57.5°	507.7	513.3	519.0	522.5	523.8	525.1	526.5	527.9
60°	481.5	487.0	492.4	496.1	498.1	500.0	501.9	503.8
62.5°	455.7	461.2	466.7	470.4	472.3	474.2	476.1	478.0
65°	415.9	421.8	427.8	431.7	433.6	435.6	437.4	439.3
67.5°	376.7	382.7	388.8	392.7	394.7	396.5	398.4	400.2
70°	349.1	355.6	362.0	366.1	367.7	369.4	371.0	372.7
72.5°	323.0	329.2	335.5	339.5	341.3	343.3	345.1	347.0
75°	283.0	289.6	296.4	300.7	303.0	305.1	307.2	309.3
77.5°	245.8	252.6	259.3	263.9	266.2	268.4	270.7	273.1
80°	221.7	228.8	236.0	240.4	242.4	244.3	246.2	248.1
82.5°	197.9	205.3	212.7	217.4	219.4	221.6	223.7	225.8
85°	164.7	171.9	179.0	183.8	186.2	188.5	191.0	193.4
87.5°	141.6	148.8	155.9	160.7	162.8	165.0	167.2	169.5
90°	145.4	153.7	162.0	167.3	169.7	172.1	174.4	176.8
92.5°	156.8	164.3	171.9	176.7	178.9	181.2	183.3	185.5
95°	185.4	192.6	199.8	204.4	206.5	208.6	210.8	213.0
97.5°	223.9	231.0	238.0	242.6	244.7	246.7	248.7	250.9
100°	252.0	258.8	265.8	270.0	271.8	273.4	275.1	276.7
102.5°	282.1	288.9	295.8	300.2	302.4	304.4	306.4	308.4
105°	327.7	334.4	340.9	345.6	348.2	350.8	353.4	356.0
107.5°	378.3	384.8	391.2	395.4	397.1	398.7	400.4	402.0
110°	411.9	417.0	422.0	425.9	428.5	431.0	433.6	436.3





TEST NUMBER: P332790-840

CATALOG NUMBER: S124DIW-S795D1050U840-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	448.1	453.3	458.6	462.2	464.2	466.3	468.3	470.4
115°	504.5	509.6	514.6	517.9	519.3	520.7	522.1	523.6
117.5°	558.1	562.2	566.4	569.3	570.7	572.1	573.6	575.0
120°	594.3	597.9	601.6	604.6	607.0	609.4	611.7	614.1
122.5°	631.7	635.7	639.6	642.2	643.1	644.0	644.8	645.7
125°	686.8	690.9	695.0	697.5	698.5	699.5	700.4	701.5
127.5°	738.2	742.0	745.9	748.5	749.7	751.0	752.2	753.5
130°	774.9	778.7	782.5	784.8	785.3	785.8	786.3	786.8
132.5°	809.5	813.1	816.8	819.2	820.2	821.3	822.3	823.4
135°	860.4	863.7	867.2	869.2	869.9	870.7	871.4	872.2
137.5°	910.6	913.5	916.4	918.5	919.8	921.1	922.5	923.8
140°	944.0	946.8	949.8	951.7	952.6	953.6	954.5	955.5
142.5°	976.2	978.9	981.6	983.4	984.3	985.3	986.2	987.2
145°	1025.4	1026.6	1027.8	1028.5	1028.9	1029.2	1029.5	1029.7
147.5°	1070.4	1070.4	1070.4	1070.7	1071.2	1071.7	1072.2	1072.8
150°	1099.7	1099.7	1099.7	1099.6	1099.4	1099.2	1098.9	1098.7
152.5°	1127.8	1128.4	1128.9	1128.9	1128.3	1127.7	1127.1	1126.6
155°	1167.1	1168.0	1168.9	1168.9	1168.0	1167.1	1166.2	1165.3
157.5°	1201.6	1202.2	1203.0	1203.0	1202.1	1201.3	1200.6	1199.8
160°	1222.8	1223.6	1224.3	1224.0	1222.8	1221.7	1220.6	1219.4
162.5°	1241.9	1243.1	1244.5	1244.5	1243.3	1242.2	1241.0	1239.9
165°	1267.2	1268.6	1269.9	1270.1	1269.2	1268.3	1267.4	1266.5
167.5°	1288.5	1289.8	1291.2	1291.2	1289.8	1288.4	1287.0	1285.6
170°	1299.9	1301.3	1302.6	1302.5	1301.0	1299.4	1297.8	1296.2
172.5°	1308.5	1310.0	1311.6	1311.5	1310.0	1308.4	1306.8	1305.1
175°	1317.8	1319.4	1321.0	1321.0	1319.4	1317.8	1316.2	1314.6
177.5°	1322.9	1324.1	1325.4	1325.3	1323.8	1322.4	1321.0	1319.5
180°	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8

(END OF REPORT)