

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: P331570-840

Luminaire Tested: **S122DIW-S865D970U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331570-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D970U840-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6921.5 lumens
Efficiency: N/A
Efficacy: 113.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

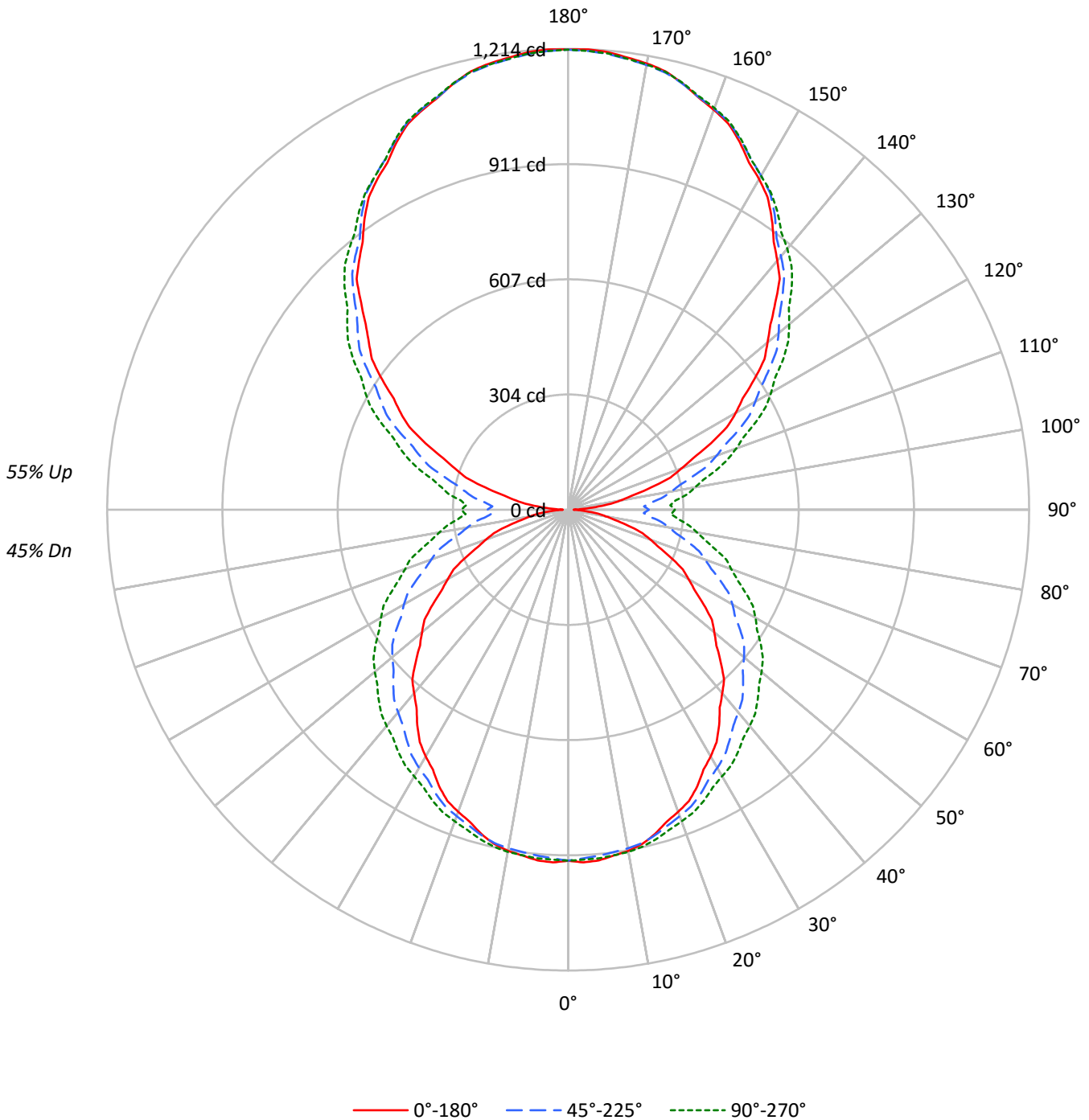
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	81	81	81	66	66	66	52	52	52	45
1	95	90	86	82	87	83	79	76	69	66	63	56	54	52	44	42	41	35
2	86	78	72	66	79	72	66	61	59	55	51	48	45	42	38	35	34	29
3	78	68	60	54	71	63	56	50	52	47	43	42	38	35	33	30	28	24
4	71	60	52	45	65	55	48	42	46	40	36	37	33	30	29	26	24	20
5	65	53	45	39	60	49	42	36	41	35	31	33	29	25	26	23	20	17
6	60	48	39	33	55	44	36	31	37	31	27	30	25	22	24	20	18	15
7	56	43	35	29	51	40	32	27	33	27	23	27	23	19	21	18	16	13
8	51	39	31	25	47	36	29	24	30	24	20	25	20	17	20	16	14	11
9	48	35	28	23	44	33	26	21	28	22	18	23	18	15	18	15	13	10
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	14	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14928	14928	14928
5°	15002	14370	14315
10°	14907	13945	13789
15°	14701	13496	13236
20°	14442	13015	12701
25°	14187	12551	12216
30°	13824	12074	11729
35°	13459	11611	11386
40°	13075	11219	11044
45°	12709	10869	10750
50°	12316	10551	10462
55°	11908	10209	10166
60°	11404	9856	9857
65°	10880	9439	9485
70°	10292	8992	9089
75°	9539	8554	8722
80°	8357	8107	8349
85°	7227	7720	8061



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.6	1.3
10°-20°	251.2	3.6
20°-30°	380.7	5.5
30°-40°	463.7	6.7
40°-50°	498.9	7.2
50°-60°	484.5	7.0
60°-70°	423.0	6.1
70°-80°	325.7	4.7
80°-90°	223.4	3.2
90°-100°	227.4	3.3
100°-110°	348.5	5.0
110°-120°	480.4	6.9
120°-130°	576.7	8.3
130°-140°	618.8	8.9
140°-150°	593.1	8.6
150°-160°	494.9	7.2
160°-170°	328.3	4.7
170°-180°	114.7	1.7
0°-30°	719.6	10.4
0°-40°	1183.3	17.1
0°-60°	2166.6	31.3
0°-90°	3138.7	45.3
90°-120°	1056.2	15.3
90°-150°	2844.8	41.1
90°-180°	3783.0	54.7
0°-180°	6921.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	927	923	915	923	922	88
15°	884	887	887	898	898	249
25°	804	814	826	841	846	369
35°	693	716	741	769	780	433
45°	568	605	651	691	706	438
55°	436	485	553	600	619	389
65°	298	364	442	495	514	295
75°	165	240	326	381	401	174
85°	48	132	217	271	292	52
90°	14	105	213	262	281	12
95°	64	138	220	268	284	69
105°	227	270	340	387	404	240
115°	414	437	494	531	544	409
125°	598	609	647	679	691	535
135°	772	783	798	824	833	596
145°	935	942	948	957	960	584
155°	1069	1072	1075	1080	1077	492
165°	1163	1162	1162	1168	1164	328
175°	1210	1207	1205	1211	1206	115
180°	1212	1212	1212	1212	1212	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	930.0	929.3	928.6	927.9	927.2	925.9	924.2	922.6	920.9	919.3	920.5
5°	927.3	926.5	925.5	924.6	923.7	922.4	920.6	918.8	917.1	915.2	917.1
7.5°	919.0	918.4	917.8	917.3	916.7	915.6	914.2	912.9	911.5	910.2	912.3
10°	912.6	912.0	911.4	910.8	910.2	909.5	908.6	907.7	906.8	905.8	908.3
12.5°	901.8	902.0	902.1	902.2	902.3	902.0	901.4	900.7	900.1	899.4	901.8
15°	884.4	885.0	885.7	886.3	886.8	887.1	887.1	887.1	887.1	887.1	889.8
17.5°	861.9	863.1	864.4	865.7	866.9	868.0	869.0	869.9	870.9	871.8	874.6
20°	846.9	848.4	849.9	851.4	852.8	854.2	855.4	856.6	857.8	859.0	862.2
22.5°	830.8	832.5	834.2	836.0	837.7	839.4	841.1	842.7	844.4	846.1	849.4
25°	804.1	806.1	808.2	810.3	812.3	814.8	817.4	820.1	822.7	825.5	829.0
27.5°	771.8	775.3	778.6	782.0	785.5	788.7	791.8	795.1	798.2	801.3	805.9
30°	750.4	754.3	758.2	762.0	765.9	769.8	773.7	777.5	781.4	785.3	790.0
32.5°	726.8	731.1	735.5	739.9	744.3	748.7	753.3	757.9	762.4	767.0	772.5
35°	692.8	697.8	703.0	708.0	713.1	718.4	724.1	729.7	735.4	741.0	747.6
37.5°	655.8	661.7	667.5	673.3	679.1	685.7	693.1	700.4	707.7	715.1	722.4
40°	631.2	637.7	644.3	650.9	657.3	664.7	672.7	680.8	688.8	696.8	704.6
42.5°	607.5	614.1	620.7	627.2	633.8	641.7	650.9	660.1	669.3	678.6	687.0
45°	568.2	576.2	584.2	592.3	600.4	609.6	620.0	630.5	640.9	651.3	660.5
47.5°	529.3	538.1	546.8	555.6	564.3	574.8	587.0	599.3	611.5	623.7	633.3
50°	502.5	511.7	521.0	530.2	539.5	550.8	564.1	577.5	591.0	604.4	614.5
52.5°	476.8	486.5	496.2	505.9	515.6	527.6	541.7	555.7	569.9	584.0	594.3
55°	435.6	446.3	457.0	467.7	478.4	491.5	507.0	522.5	538.0	553.4	564.1
57.5°	394.8	406.9	419.0	431.0	443.1	457.1	472.8	488.7	504.4	520.2	531.8
60°	365.9	378.6	391.4	404.2	417.1	431.9	448.9	465.9	482.8	499.9	511.2
62.5°	340.1	353.4	366.7	379.9	393.2	408.4	425.4	442.3	459.3	476.3	488.3
65°	297.5	312.0	326.7	341.2	355.9	371.9	389.5	407.1	424.6	442.2	454.4
67.5°	258.3	273.6	288.8	304.1	319.3	336.0	354.0	371.9	389.9	407.9	420.2
70°	230.5	246.0	261.5	276.9	292.5	309.4	327.9	346.3	364.8	383.2	396.1
72.5°	204.8	220.8	236.7	252.7	268.6	285.9	304.7	323.4	342.0	360.7	373.3
75°	164.8	181.5	198.1	214.9	231.6	249.4	268.4	287.5	306.6	325.6	338.4
77.5°	126.2	143.7	161.2	178.5	196.0	214.4	233.8	253.2	272.5	291.9	304.6
80°	100.5	118.7	136.8	155.0	173.2	191.9	211.3	230.7	249.9	269.3	281.9
82.5°	79.1	96.9	114.9	132.8	150.8	169.6	189.1	208.7	228.3	247.9	260.4
85°	48.3	66.8	85.1	103.6	122.1	140.9	159.9	178.9	198.0	217.1	229.6
87.5°	26.5	44.7	63.0	81.4	99.7	118.9	138.9	159.0	178.9	199.0	211.1
90°	14.4	34.4	54.4	74.4	94.4	116.4	140.5	164.6	188.6	212.7	224.2
92.5°	30.5	48.6	66.7	84.7	102.9	121.7	141.2	160.7	180.3	199.8	211.6
95°	63.9	80.2	96.4	112.7	129.0	146.3	164.6	182.9	201.3	219.5	230.9
97.5°	106.5	121.0	135.4	149.9	164.3	180.6	198.5	216.6	234.6	252.7	263.7
100°	139.3	152.1	164.9	177.8	190.7	205.7	223.1	240.4	257.8	275.2	286.2
102.5°	172.6	184.1	195.6	207.1	218.6	233.0	250.0	267.1	284.2	301.2	312.1
105°	226.6	235.9	245.3	254.6	263.9	276.5	292.5	308.4	324.4	340.2	351.1
107.5°	282.4	290.3	298.2	306.1	314.1	325.4	340.2	355.1	369.9	384.8	394.9
110°	317.3	324.7	331.9	339.3	346.6	357.6	372.1	386.8	401.3	416.0	425.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	356.6	362.9	369.3	375.7	382.0	392.1	405.8	419.5	433.2	446.9	455.9
115°	414.4	419.1	423.7	428.4	433.0	441.8	454.8	467.8	480.7	493.6	502.3
117.5°	470.8	474.8	478.8	482.7	486.7	494.2	505.3	516.4	527.6	538.7	546.9
120°	509.3	512.3	515.3	518.4	521.4	527.9	538.0	548.1	558.2	568.3	576.6
122.5°	544.5	547.1	549.8	552.5	555.1	561.4	571.4	581.3	591.2	601.1	608.6
125°	597.9	600.1	602.1	604.1	606.1	611.6	620.5	629.3	638.1	647.0	654.4
127.5°	651.4	653.7	655.9	658.2	660.6	665.1	672.0	678.8	685.7	692.6	699.1
130°	684.9	687.6	690.2	692.9	695.6	699.7	705.6	711.3	717.2	723.0	729.6
132.5°	722.6	724.7	726.8	728.9	731.0	734.5	739.4	744.4	749.2	754.2	760.1
135°	771.5	774.1	776.6	779.0	781.5	784.5	787.9	791.3	794.8	798.2	804.3
137.5°	824.6	826.5	828.5	830.5	832.4	834.5	836.3	838.2	840.1	842.0	847.3
140°	856.5	858.2	859.9	861.7	863.4	865.2	866.9	868.7	870.4	872.1	876.9
142.5°	889.2	890.9	892.6	894.4	896.2	897.5	898.4	899.3	900.2	901.0	905.0
145°	934.8	936.4	938.1	939.7	941.3	942.7	944.1	945.4	946.8	948.2	950.2
147.5°	976.8	978.8	980.7	982.5	984.4	985.8	986.7	987.6	988.6	989.5	990.3
150°	1005.4	1006.8	1008.1	1009.6	1010.9	1012.1	1013.0	1013.9	1014.8	1015.7	1016.3
152.5°	1030.9	1032.2	1033.6	1034.9	1036.3	1037.5	1038.6	1039.7	1040.8	1041.9	1042.7
155°	1068.8	1069.5	1070.3	1071.0	1071.6	1072.3	1073.0	1073.7	1074.3	1075.0	1076.1
157.5°	1101.4	1101.9	1102.3	1102.8	1103.2	1103.7	1104.1	1104.5	1104.9	1105.3	1106.8
160°	1121.1	1121.5	1122.0	1122.4	1122.9	1123.2	1123.5	1123.7	1123.9	1124.1	1125.5
162.5°	1139.0	1139.1	1139.2	1139.3	1139.4	1139.5	1139.8	1140.0	1140.2	1140.4	1142.1
165°	1163.0	1162.8	1162.6	1162.3	1162.1	1162.0	1162.0	1162.0	1162.0	1162.0	1163.6
167.5°	1183.1	1182.3	1181.6	1180.9	1180.3	1179.9	1179.9	1179.8	1179.8	1179.7	1181.3
170°	1193.7	1193.0	1192.3	1191.6	1190.9	1190.5	1190.2	1190.0	1189.8	1189.6	1191.1
172.5°	1201.0	1200.3	1199.6	1199.0	1198.3	1197.8	1197.6	1197.4	1197.2	1196.9	1198.5
175°	1210.0	1209.3	1208.7	1208.0	1207.3	1206.7	1206.3	1205.8	1205.4	1204.9	1206.5
177.5°	1213.8	1213.2	1212.6	1212.0	1211.5	1211.0	1210.7	1210.3	1210.0	1209.6	1210.7
180°	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	921.6	922.8	924.0	924.4	923.9	923.4	922.9	922.5
5°	918.8	920.6	922.4	923.1	922.8	922.5	922.2	921.9
7.5°	914.4	916.6	918.8	919.7	919.4	919.1	918.8	918.5
10°	910.6	913.0	915.4	916.5	916.1	915.8	915.5	915.2
12.5°	904.2	906.6	909.0	910.0	909.7	909.4	909.1	908.8
15°	892.4	895.1	897.9	899.0	898.7	898.4	898.1	897.9
17.5°	877.5	880.2	883.0	884.4	884.4	884.4	884.4	884.4
20°	865.6	868.8	872.0	873.7	873.7	873.7	873.7	873.7
22.5°	852.6	856.0	859.2	861.1	861.5	862.0	862.5	863.0
25°	832.6	836.2	839.8	842.0	842.8	843.7	844.7	845.6
27.5°	810.4	815.0	819.4	822.0	822.7	823.3	824.0	824.7
30°	794.8	799.5	804.4	807.2	808.0	808.9	809.8	810.7
32.5°	778.0	783.5	788.9	792.5	794.1	795.7	797.3	798.9
35°	754.2	760.7	767.3	771.5	773.7	775.8	777.8	779.9
37.5°	729.5	736.8	744.1	748.8	751.0	753.3	755.5	757.7
40°	712.3	720.0	727.8	733.0	735.7	738.3	741.0	743.8
42.5°	695.5	704.0	712.5	718.0	720.6	723.4	726.0	728.7
45°	669.7	678.9	688.2	694.3	697.3	700.2	703.3	706.2
47.5°	643.0	652.6	662.3	668.7	672.0	675.3	678.5	681.9
50°	624.6	634.7	644.9	651.6	654.8	658.1	661.4	664.7
52.5°	604.7	615.1	625.4	632.4	635.9	639.4	642.9	646.4
55°	574.9	585.6	596.3	603.6	607.4	611.4	615.2	619.0
57.5°	543.3	554.8	566.4	574.2	578.0	582.0	585.9	589.9
60°	522.5	533.8	545.1	552.8	557.0	561.2	565.3	569.6
62.5°	500.3	512.3	524.3	532.4	536.2	540.2	544.1	548.1
65°	466.7	478.9	491.1	499.1	502.9	506.9	510.7	514.5
67.5°	432.5	444.8	457.3	465.4	469.5	473.5	477.6	481.6
70°	408.9	421.6	434.4	442.6	446.3	449.8	453.4	457.0
72.5°	385.9	398.4	411.0	419.4	423.7	428.0	432.3	436.6
75°	351.2	364.1	376.9	385.2	389.1	392.9	396.8	400.7
77.5°	317.4	330.1	342.8	351.3	355.5	359.6	363.9	368.0
80°	294.4	306.9	319.4	327.7	331.8	336.1	340.2	344.4
82.5°	273.0	285.4	297.9	306.2	310.1	314.0	317.9	321.8
85°	242.1	254.6	267.1	275.5	279.6	283.8	287.9	292.2
87.5°	223.2	235.2	247.3	255.3	259.1	263.0	266.8	270.6
90°	235.6	247.0	258.5	266.1	269.9	273.8	277.5	281.3
92.5°	223.3	235.1	246.8	254.5	258.1	261.8	265.4	269.0
95°	242.2	253.5	264.8	272.1	275.2	278.3	281.4	284.5
97.5°	274.7	285.7	296.7	304.0	307.4	310.9	314.4	317.8
100°	297.2	308.2	319.2	326.3	329.3	332.3	335.4	338.4
102.5°	323.2	334.1	345.1	352.0	355.1	358.2	361.2	364.3
105°	362.0	372.9	383.7	390.8	394.2	397.4	400.7	403.9
107.5°	405.1	415.3	425.5	431.7	433.9	436.2	438.4	440.6
110°	434.9	444.5	454.0	460.1	462.7	465.2	467.9	470.5



TEST NUMBER: P331570-840

CATALOG NUMBER: S122DIW-S865D970U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	464.8	473.8	482.8	488.7	491.5	494.2	497.1	499.8
115°	511.1	519.8	528.5	534.1	536.7	539.3	541.9	544.5
117.5°	555.2	563.5	571.8	577.0	579.5	581.8	584.1	586.5
120°	584.9	593.3	601.6	607.1	609.7	612.3	614.9	617.4
122.5°	616.2	623.8	631.4	636.2	638.5	640.9	643.2	645.4
125°	661.7	669.0	676.4	681.4	683.8	686.2	688.7	691.2
127.5°	705.7	712.3	718.8	723.1	725.0	726.9	728.7	730.6
130°	736.4	743.1	749.7	753.9	755.3	756.8	758.2	759.7
132.5°	766.0	771.9	777.8	781.6	783.3	784.9	786.6	788.2
135°	810.3	816.3	822.3	826.2	827.9	829.6	831.3	833.0
137.5°	852.6	857.9	863.2	866.5	867.6	868.7	869.8	870.9
140°	881.6	886.4	891.2	893.9	894.8	895.8	896.7	897.5
142.5°	909.1	913.0	917.1	919.4	920.0	920.6	921.3	921.9
145°	952.2	954.2	956.2	957.6	958.2	958.7	959.3	959.9
147.5°	991.0	991.7	992.5	992.8	992.6	992.5	992.3	992.2
150°	1017.0	1017.7	1018.4	1018.4	1017.7	1017.0	1016.3	1015.7
152.5°	1043.6	1044.5	1045.3	1045.3	1044.5	1043.6	1042.7	1041.9
155°	1077.3	1078.4	1079.5	1079.7	1079.1	1078.4	1077.7	1077.0
157.5°	1108.4	1109.9	1111.5	1111.7	1110.6	1109.5	1108.4	1107.3
160°	1126.8	1128.2	1129.5	1129.8	1128.9	1128.0	1127.1	1126.2
162.5°	1143.6	1145.1	1146.7	1146.9	1145.8	1144.7	1143.6	1142.6
165°	1165.2	1166.7	1168.3	1168.5	1167.4	1166.3	1165.2	1164.0
167.5°	1183.0	1184.6	1186.1	1186.3	1185.2	1184.0	1182.8	1181.6
170°	1192.8	1194.4	1196.0	1196.1	1194.7	1193.4	1191.9	1190.6
172.5°	1200.1	1201.7	1203.3	1203.5	1202.0	1200.7	1199.3	1198.0
175°	1208.1	1209.7	1211.2	1211.4	1210.0	1208.7	1207.3	1206.0
177.5°	1211.8	1212.8	1214.0	1214.0	1212.8	1211.8	1210.7	1209.6
180°	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0	1212.0

(END OF REPORT)