

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: P332165-840

Luminaire Tested: **S123DIW-S775D1030U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332165-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S775D1030U840-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6874.4 lumens
Efficiency: N/A
Efficacy: 130.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

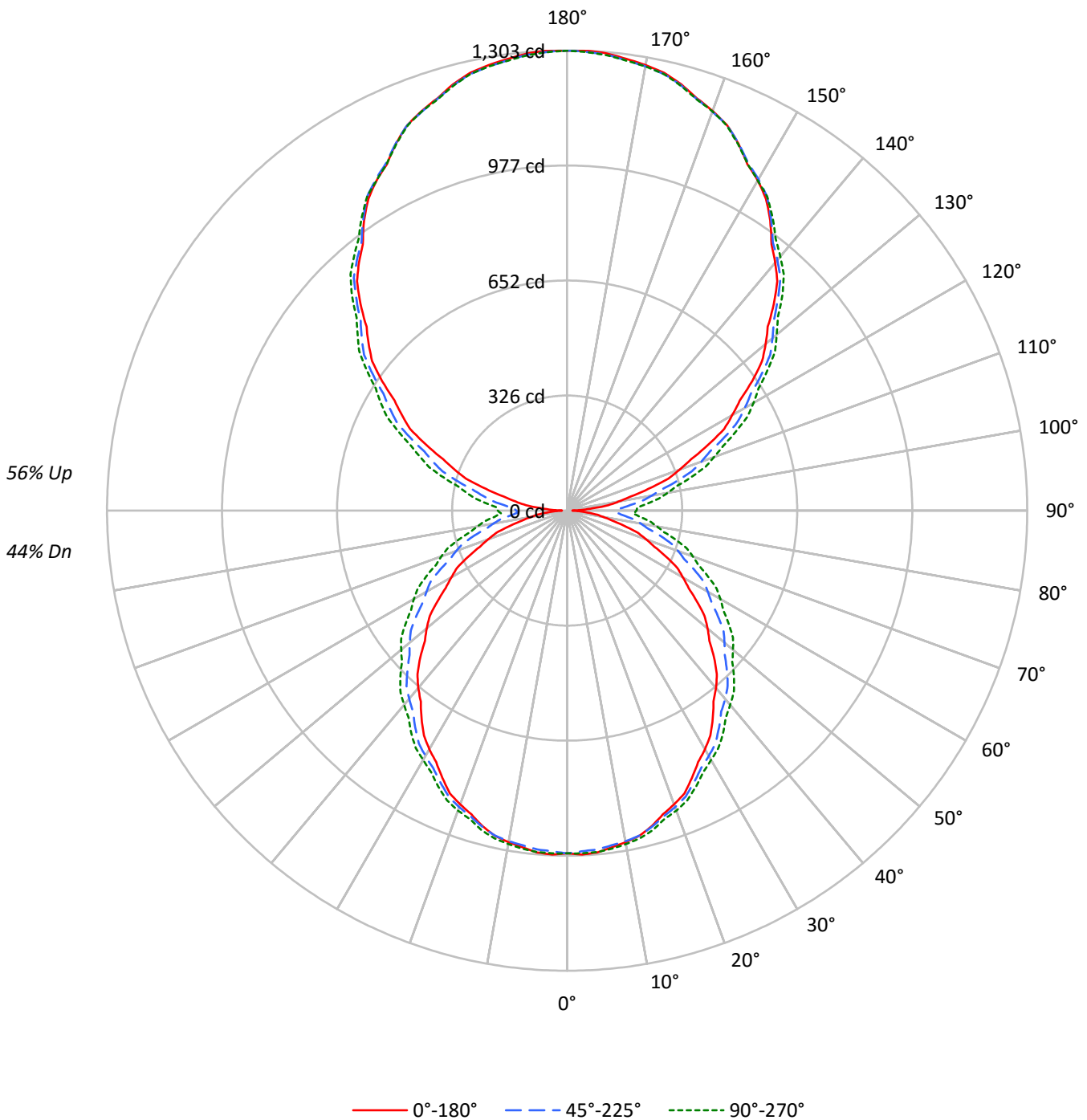
Input Watts (W): 52.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	68	66	63	55	53	52	43	42	40	35				
2	86	79	72	67	79	72	66	62	59	55	52	48	45	42	37	35	33	28				
3	79	69	61	55	71	63	56	51	52	47	43	42	38	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	61	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	32	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	26	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10449	10449	10449
5°	10481	10185	10191
10°	10387	9951	9901
15°	10253	9685	9584
20°	10061	9380	9236
25°	9826	9030	8869
30°	9583	8714	8498
35°	9312	8382	8201
40°	9054	8079	7884
45°	8767	7788	7630
50°	8484	7501	7350
55°	8172	7206	7099
60°	7867	6907	6840
65°	7553	6588	6534
70°	7082	6231	6219
75°	6487	5819	5899
80°	5804	5417	5533
85°	5167	5142	5320



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.0	1.3
10°-20°	262.3	3.8
20°-30°	392.3	5.7
30°-40°	468.5	6.8
40°-50°	490.2	7.1
50°-60°	460.0	6.7
60°-70°	384.2	5.6
70°-80°	274.9	4.0
80°-90°	167.8	2.4
90°-100°	187.7	2.7
100°-110°	329.5	4.8
110°-120°	482.4	7.0
120°-130°	597.0	8.7
130°-140°	651.5	9.5
140°-150°	630.5	9.2
150°-160°	528.5	7.7
160°-170°	351.8	5.1
170°-180°	123.2	1.8
0°-30°	746.7	10.9
0°-40°	1215.2	17.7
0°-60°	2165.4	31.5
0°-90°	2992.3	43.5
90°-120°	999.7	14.5
90°-150°	2878.6	41.9
90°-180°	3882.0	56.5
0°-180°	6874.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	972	969	963	971	971	92
15°	925	928	927	937	937	260
25°	835	846	849	862	863	385
35°	719	736	750	765	770	450
45°	588	613	640	659	668	453
55°	448	483	521	549	558	401
65°	310	351	398	428	440	306
75°	168	218	271	304	318	180
85°	52	105	161	195	207	54
90°	15	77	144	183	197	13
95°	72	121	180	216	228	77
105°	239	268	321	349	362	255
115°	440	457	492	517	526	436
125°	640	644	671	688	693	570
135°	828	833	843	858	862	638
145°	1003	1004	1007	1014	1014	626
155°	1147	1147	1148	1151	1145	528
165°	1249	1246	1246	1252	1245	352
175°	1299	1296	1295	1301	1294	123
180°	1302	1302	1302	1302	1302	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	974.9	974.3	973.8	973.2	972.7	971.6	970.2	968.7	967.1	965.6	967.1
5°	971.8	971.3	970.8	970.4	969.9	969.0	967.6	966.1	964.7	963.3	965.2
7.5°	962.2	962.3	962.4	962.5	962.6	962.0	960.6	959.3	957.9	956.5	958.9
10°	953.8	954.2	954.7	955.2	955.6	955.3	954.1	953.0	951.8	950.6	953.0
12.5°	943.6	944.3	944.9	945.6	946.2	946.2	945.4	944.6	943.8	943.0	945.1
15°	925.2	925.9	926.7	927.4	928.1	928.3	928.1	927.9	927.6	927.4	929.7
17.5°	902.0	903.4	904.8	906.2	907.6	908.3	908.2	908.1	908.0	907.9	910.0
20°	885.0	886.5	887.9	889.3	890.7	891.6	892.1	892.6	893.0	893.5	895.6
22.5°	867.3	868.7	870.1	871.5	872.9	873.9	874.6	875.3	876.0	876.6	879.3
25°	835.4	837.7	840.0	842.4	844.8	846.3	847.0	847.7	848.4	849.1	852.1
27.5°	803.2	805.9	808.6	811.2	814.0	816.0	817.5	819.0	820.5	822.0	824.7
30°	780.3	783.5	786.5	789.5	792.5	795.1	796.9	798.8	800.7	802.5	805.4
32.5°	755.0	758.4	761.8	765.3	768.7	771.6	774.1	776.6	779.0	781.4	784.5
35°	719.0	722.8	726.6	730.3	734.1	737.5	740.5	743.6	746.7	749.7	753.3
37.5°	681.0	685.2	689.4	693.7	697.9	701.9	705.7	709.4	713.2	716.9	720.9
40°	655.6	659.8	664.1	668.3	672.5	677.0	681.7	686.4	691.1	695.8	699.7
42.5°	627.6	632.9	638.0	643.2	648.3	653.4	658.2	663.2	668.0	673.0	677.3
45°	587.9	593.6	599.2	604.8	610.5	616.2	622.1	627.9	633.9	639.7	644.2
47.5°	546.2	552.7	559.1	565.4	571.8	578.3	585.1	591.8	598.5	605.2	610.3
50°	519.2	525.7	532.3	539.0	545.5	552.4	559.8	567.0	574.3	581.6	586.9
52.5°	490.4	497.4	504.3	511.3	518.3	525.7	533.8	541.8	549.9	557.8	563.5
55°	448.4	456.1	463.8	471.6	479.4	487.5	495.9	504.4	512.8	521.3	527.7
57.5°	407.3	415.4	423.4	431.5	439.7	448.3	457.6	466.9	476.1	485.3	491.7
60°	378.6	387.0	395.5	403.9	412.4	421.4	431.1	440.7	450.3	460.0	466.6
62.5°	351.4	360.1	368.8	377.4	386.1	395.5	405.7	415.9	426.1	436.3	442.8
65°	309.8	319.0	328.1	337.3	346.5	356.2	366.6	376.9	387.3	397.6	404.7
67.5°	267.5	277.2	287.0	296.7	306.4	316.6	327.1	337.6	348.1	358.7	366.4
70°	237.9	248.0	258.1	268.2	278.3	289.0	300.3	311.5	322.9	334.2	341.6
72.5°	210.9	221.0	231.1	241.2	251.3	262.2	273.8	285.5	297.1	308.7	316.5
75°	168.1	179.2	190.3	201.3	212.3	223.7	235.4	247.2	258.9	270.7	278.4
77.5°	130.9	142.1	153.2	164.3	175.4	186.9	198.8	210.7	222.5	234.3	242.5
80°	104.7	116.2	127.7	139.3	150.8	162.6	174.8	187.0	199.2	211.5	219.4
82.5°	81.8	93.5	105.2	116.9	128.7	140.7	153.1	165.5	177.9	190.4	198.3
85°	51.8	63.5	75.3	87.1	98.8	110.9	123.4	135.8	148.2	160.8	168.7
87.5°	28.4	40.5	52.6	64.8	77.0	89.4	101.9	114.5	127.0	139.7	147.8
90°	14.7	28.6	42.3	56.1	69.9	84.3	99.3	114.1	129.1	144.0	152.9
92.5°	37.7	49.6	61.5	73.4	85.4	98.1	111.6	125.0	138.6	152.0	160.6
95°	72.0	82.7	93.5	104.2	115.0	127.0	140.4	153.7	167.0	180.4	188.5
97.5°	117.5	127.0	136.5	145.9	155.4	166.3	178.6	190.9	203.2	215.5	223.6
100°	148.7	157.5	166.4	175.3	184.2	194.6	206.5	218.5	230.5	242.4	249.8
102.5°	184.6	192.3	199.9	207.4	215.0	224.8	236.9	249.1	261.3	273.4	280.6
105°	238.6	244.8	250.9	256.9	263.1	272.2	284.3	296.5	308.6	320.7	327.3
107.5°	300.4	305.5	310.5	315.6	320.6	328.4	338.8	349.2	359.6	370.0	377.1
110°	338.8	343.6	348.2	352.9	357.6	364.9	374.8	384.6	394.5	404.2	411.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	379.8	383.5	387.3	391.0	394.8	401.2	410.3	419.4	428.6	437.7	444.6
115°	440.1	443.6	447.1	450.6	454.1	459.9	467.9	475.8	483.9	491.9	497.8
117.5°	501.7	503.9	506.0	508.3	510.5	515.2	522.6	530.0	537.2	544.6	550.2
120°	539.3	541.9	544.4	546.9	549.5	554.0	560.7	567.2	573.9	580.5	585.7
122.5°	579.5	581.1	582.7	584.2	585.8	590.1	596.8	603.6	610.5	617.2	621.9
125°	639.5	640.3	640.9	641.6	642.3	645.8	652.2	658.5	664.9	671.3	675.3
127.5°	696.0	697.2	698.4	699.6	700.9	704.1	709.2	714.4	719.5	724.7	728.0
130°	733.7	735.3	736.8	738.4	740.0	742.9	746.8	750.8	754.9	758.9	762.4
132.5°	770.5	772.2	774.1	775.8	777.6	780.1	783.4	786.6	789.8	793.1	796.3
135°	827.8	828.9	830.0	831.1	832.3	834.0	836.4	838.7	841.1	843.4	846.8
137.5°	880.8	881.7	882.6	883.6	884.5	886.1	888.1	890.1	892.2	894.2	897.0
140°	916.8	917.9	919.0	920.2	921.3	922.3	923.2	924.2	925.1	926.0	929.4
142.5°	950.3	951.3	952.2	953.1	954.1	954.8	955.4	955.9	956.5	957.0	960.0
145°	1002.7	1002.9	1003.1	1003.3	1003.6	1004.0	1004.7	1005.4	1006.0	1006.7	1008.4
147.5°	1047.4	1048.2	1049.0	1050.0	1050.8	1051.5	1052.1	1052.8	1053.4	1054.0	1054.6
150°	1079.3	1079.8	1080.3	1080.8	1081.2	1081.7	1082.1	1082.6	1083.0	1083.5	1083.5
152.5°	1105.6	1106.2	1106.8	1107.5	1108.1	1108.5	1108.8	1109.1	1109.4	1109.6	1110.0
155°	1146.9	1146.9	1146.9	1146.9	1146.9	1147.0	1147.2	1147.5	1147.7	1147.9	1148.8
157.5°	1182.1	1181.8	1181.5	1181.2	1181.0	1180.9	1181.1	1181.3	1181.5	1181.6	1182.7
160°	1204.2	1203.8	1203.3	1202.9	1202.3	1202.1	1202.1	1202.1	1202.1	1202.1	1203.3
162.5°	1223.9	1223.2	1222.5	1221.9	1221.3	1221.0	1221.2	1221.4	1221.6	1221.8	1222.9
165°	1249.2	1248.5	1247.9	1247.2	1246.5	1246.2	1246.2	1246.2	1246.2	1246.2	1247.5
167.5°	1269.5	1268.6	1267.7	1266.8	1265.9	1265.5	1265.7	1265.9	1266.1	1266.2	1267.6
170°	1280.9	1280.0	1279.1	1278.2	1277.3	1276.9	1276.9	1276.9	1276.9	1276.9	1278.4
172.5°	1289.9	1289.0	1288.1	1287.2	1286.3	1285.9	1285.9	1285.9	1285.9	1285.9	1287.3
175°	1299.4	1298.5	1297.6	1296.7	1295.8	1295.3	1295.3	1295.3	1295.3	1295.3	1296.7
177.5°	1303.2	1302.5	1301.8	1301.0	1300.3	1300.0	1300.0	1300.0	1300.0	1300.0	1301.0
180°	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	968.7	970.2	971.6	972.3	972.1	971.9	971.7	971.6
5°	967.0	969.0	970.8	971.6	971.4	971.2	971.0	970.7
7.5°	961.2	963.6	965.9	966.9	966.6	966.4	966.1	965.8
10°	955.3	957.7	960.0	961.0	960.5	960.0	959.6	959.1
12.5°	947.4	949.5	951.6	952.5	952.0	951.6	951.1	950.6
15°	932.0	934.4	936.8	937.8	937.6	937.4	937.1	936.9
17.5°	912.1	914.2	916.4	917.3	917.0	916.6	916.3	915.9
20°	897.8	899.9	902.0	903.1	903.4	903.6	903.8	904.1
22.5°	881.9	884.6	887.3	888.6	888.5	888.3	888.2	888.0
25°	855.3	858.3	861.3	862.8	862.8	862.8	862.8	862.8
27.5°	827.3	829.9	832.5	833.9	834.1	834.4	834.6	834.8
30°	808.2	811.0	813.9	815.3	815.3	815.3	815.3	815.3
32.5°	787.4	790.4	793.5	795.3	795.8	796.4	796.9	797.5
35°	756.8	760.3	763.8	766.1	767.0	767.9	768.8	769.8
37.5°	724.9	728.9	732.9	735.3	736.0	736.8	737.5	738.3
40°	703.8	707.7	711.8	714.2	715.2	716.1	717.0	718.0
42.5°	681.7	686.0	690.4	693.3	694.6	695.9	697.2	698.5
45°	648.6	653.1	657.6	660.8	662.7	664.5	666.4	668.3
47.5°	615.3	620.4	625.4	628.6	630.1	631.6	633.0	634.4
50°	592.4	597.7	603.2	606.7	608.3	610.0	611.7	613.3
52.5°	569.1	574.7	580.3	584.1	586.1	588.1	590.2	592.2
55°	534.0	540.4	546.6	550.8	552.7	554.5	556.4	558.4
57.5°	498.2	504.5	510.9	515.2	517.5	519.7	521.8	524.0
60°	473.1	479.7	486.3	490.9	493.4	496.0	498.7	501.2
62.5°	449.5	456.1	462.6	467.1	469.5	471.9	474.3	476.7
65°	411.7	418.7	425.8	430.5	432.8	435.2	437.6	439.9
67.5°	374.1	381.8	389.5	394.4	396.3	398.3	400.3	402.2
70°	349.2	356.7	364.3	369.1	371.5	373.9	376.2	378.6
72.5°	324.2	331.8	339.6	344.7	347.0	349.3	351.6	354.1
75°	286.2	294.0	301.7	307.0	309.8	312.7	315.5	318.3
77.5°	250.6	258.8	267.0	272.2	274.4	276.5	278.7	280.8
80°	227.4	235.4	243.5	248.6	251.0	253.3	255.7	258.0
82.5°	206.3	214.3	222.3	227.4	229.8	232.2	234.5	236.8
85°	176.7	184.7	192.7	197.8	200.2	202.6	204.9	207.2
87.5°	155.9	164.1	172.3	177.6	180.1	182.5	184.9	187.3
90°	161.9	170.8	179.7	185.5	188.3	191.1	193.9	196.7
92.5°	169.1	177.6	186.1	191.4	193.2	195.1	197.0	198.8
95°	196.8	205.0	213.2	218.4	220.8	223.2	225.5	227.8
97.5°	231.7	239.6	247.7	252.9	255.2	257.4	259.6	262.0
100°	257.4	264.9	272.4	277.5	280.3	283.2	285.9	288.7
102.5°	287.9	295.3	302.6	307.3	309.6	311.8	314.2	316.4
105°	334.0	340.5	347.1	351.6	354.3	356.8	359.3	361.9
107.5°	384.1	391.1	398.1	402.5	404.3	406.2	407.9	409.7
110°	418.3	425.4	432.3	436.6	438.0	439.4	440.8	442.3



TEST NUMBER: P332165-840

CATALOG NUMBER: S123DIW-S775D1030U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	451.7	458.7	465.7	470.2	472.2	474.1	476.2	478.2
115°	503.6	509.5	515.3	519.1	520.8	522.4	524.1	525.7
117.5°	555.7	561.3	566.8	570.2	571.4	572.6	573.8	575.0
120°	590.9	596.0	601.3	604.4	605.6	606.8	607.9	609.2
122.5°	626.4	631.1	635.7	638.5	639.5	640.6	641.6	642.6
125°	679.2	683.3	687.3	689.7	690.4	691.2	692.0	692.7
127.5°	731.4	734.8	738.1	740.1	740.6	741.2	741.7	742.4
130°	766.0	769.5	773.1	774.8	774.6	774.5	774.3	774.1
132.5°	799.5	802.6	805.9	807.6	808.0	808.4	808.7	809.1
135°	850.1	853.4	856.8	858.8	859.5	860.2	860.9	861.6
137.5°	899.8	902.5	905.2	906.8	907.2	907.5	907.8	908.1
140°	932.6	935.9	939.3	940.7	940.3	939.9	939.5	939.0
142.5°	962.9	965.8	968.8	970.2	970.1	970.1	970.0	970.0
145°	1010.1	1011.7	1013.4	1014.2	1014.2	1014.2	1014.3	1014.3
147.5°	1055.1	1055.7	1056.2	1056.3	1055.8	1055.2	1054.7	1054.2
150°	1083.5	1083.5	1083.5	1083.0	1082.2	1081.3	1080.4	1079.4
152.5°	1110.3	1110.8	1111.2	1110.8	1109.6	1108.6	1107.5	1106.4
155°	1149.7	1150.6	1151.5	1151.2	1149.6	1148.0	1146.5	1144.9
157.5°	1183.6	1184.6	1185.5	1185.4	1184.1	1182.9	1181.5	1180.2
160°	1204.5	1205.6	1206.7	1206.8	1205.9	1205.0	1204.1	1203.2
162.5°	1224.1	1225.2	1226.4	1226.2	1224.8	1223.2	1221.8	1220.3
165°	1248.9	1250.2	1251.6	1251.5	1249.9	1248.3	1246.7	1245.2
167.5°	1269.0	1270.4	1271.8	1271.8	1270.4	1269.0	1267.6	1266.2
170°	1280.0	1281.6	1283.2	1283.2	1281.6	1280.0	1278.4	1276.9
172.5°	1288.7	1290.1	1291.5	1291.4	1289.8	1288.2	1286.6	1285.1
175°	1298.0	1299.4	1300.7	1300.6	1299.0	1297.4	1295.9	1294.2
177.5°	1302.1	1303.2	1304.3	1304.2	1302.9	1301.7	1300.4	1299.2
180°	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4

(END OF REPORT)