

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: P332152-840

Luminaire Tested: **S123DIW-S775D460U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332152-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S775D460U840-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5126.0 lumens
Efficiency: N/A
Efficacy: 136.0 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

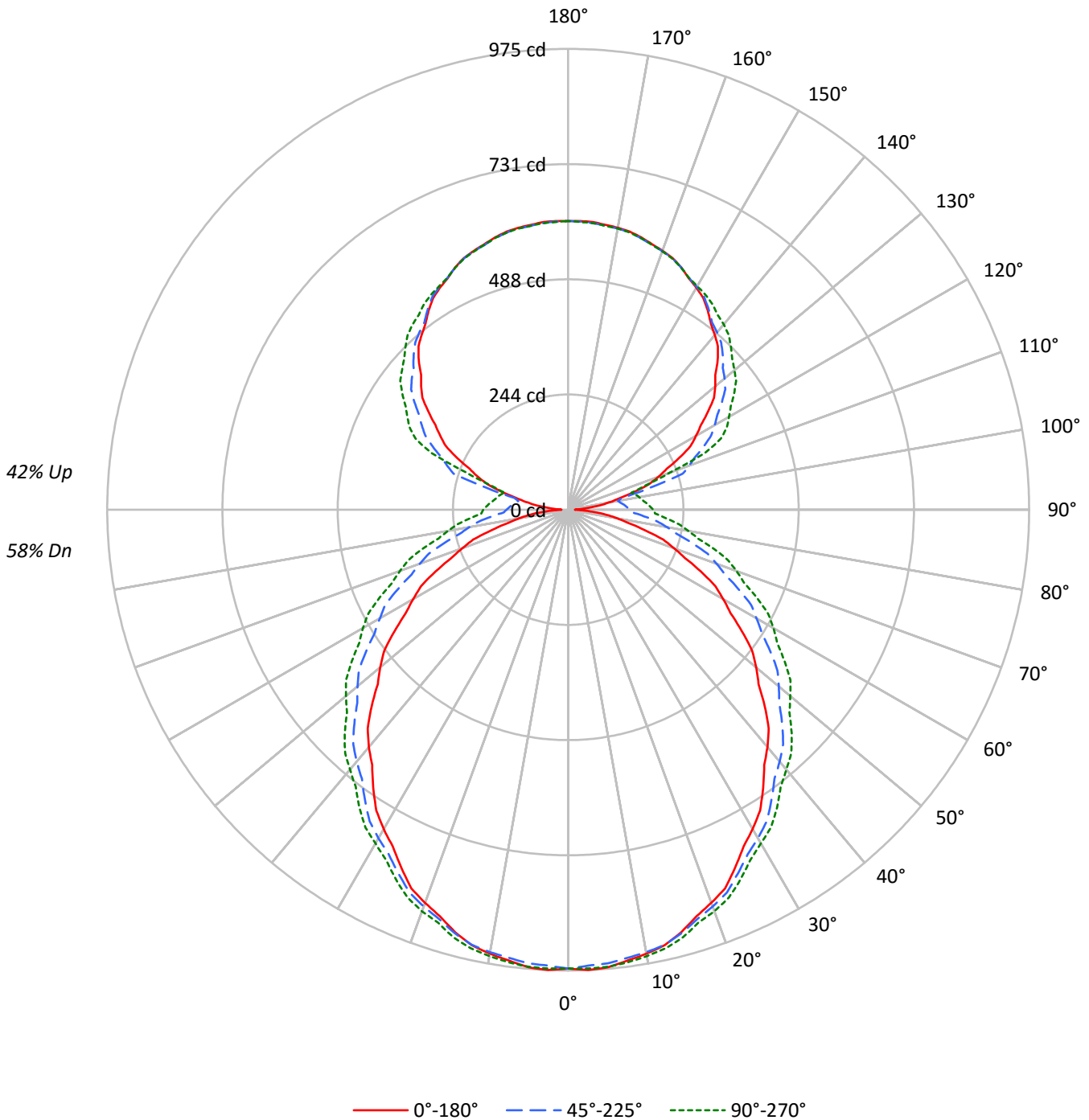
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332152-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332152-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-D

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	50	30	10	0													
RCR																																					
0	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64	58																			
1	98	93	89	85	91	87	83	80	75	72	70	64	62	60	54	53	51	47																			
2	89	81	74	69	83	76	70	65	65	61	57	56	52	49	47	45	42	38																			
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	41	38	36	32																			
4	74	62	54	48	68	58	51	45	51	45	40	43	39	35	37	33	30	27																			
5	68	56	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23																			
6	62	50	41	35	58	47	39	33	41	34	30	35	30	26	30	26	23	20																			
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	27	23	20	18																			
8	54	41	33	27	50	38	31	26	34	28	23	29	24	21	25	21	18	16																			
9	50	37	29	24	46	35	28	23	31	25	21	27	22	19	23	19	16	14																			
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	21	18	15	13																			

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



TEST NUMBER: P332152-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.0	1.8
10°-20°	262.3	5.1
20°-30°	392.3	7.7
30°-40°	468.5	9.1
40°-50°	490.2	9.6
50°-60°	460.0	9.0
60°-70°	384.2	7.5
70°-80°	274.9	5.4
80°-90°	165.6	3.2
90°-100°	125.1	2.4
100°-110°	181.4	3.5
110°-120°	304.7	5.9
120°-130°	352.5	6.9
130°-140°	358.8	7.0
140°-150°	326.2	6.4
150°-160°	260.9	5.1
160°-170°	168.4	3.3
170°-180°	58.0	1.1
0°-30°	746.7	14.6
0°-40°	1215.2	23.7
0°-60°	2165.4	42.2
0°-90°	2990.2	58.3
90°-120°	611.1	11.9
90°-150°	1648.6	32.2
90°-180°	2136.0	41.7
0°-180°	5126.0	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°	14	71	130	167	180	11
95°	39	64	119	153	165	43
105°	144	173	179	131	138	152
115°	259	276	316	345	357	256
125°	361	366	397	419	428	322
135°	447	450	462	482	487	344
145°	515	517	518	527	531	322
155°	566	565	565	567	565	261
165°	597	595	595	598	595	169
175°	611	608	609	612	608	58
180°	611	611	611	611	611	



TEST NUMBER: P332152-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-D

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°	28.2	40.1	52.0	63.9	75.8	87.9	100.2	112.4	124.6	136.9	144.9
90°	14.2	26.8	39.3	51.8	64.3	77.2	90.5	103.8	117.0	130.4	138.8
92.5°	21.3	31.4	41.5	51.6	61.8	73.2	85.9	98.8	111.6	124.3	132.8
95°	39.3	44.3	49.4	54.4	59.4	68.3	80.9	93.5	106.1	118.8	126.7
97.5°	65.9	72.4	78.8	85.2	91.7	96.7	100.5	104.2	108.0	111.7	119.5
100°	86.2	95.7	105.2	114.8	124.3	126.6	121.7	116.8	111.9	106.9	114.6
102.5°	109.3	117.5	125.7	134.0	142.2	143.0	136.4	129.9	123.3	116.7	120.9
105°	143.7	150.4	157.1	163.9	170.7	174.5	175.6	176.6	177.6	178.6	167.4
107.5°	178.8	184.6	190.3	195.9	201.6	210.0	221.0	232.0	243.0	254.0	247.2
110°	202.4	207.4	212.4	217.4	222.5	230.2	240.8	251.3	261.8	272.3	275.1



TEST NUMBER: P332152-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	225.6	229.7	234.0	238.2	242.4	249.5	259.7	269.8	279.9	290.1	296.1
115°	258.9	262.4	265.8	269.2	272.6	279.0	288.4	297.7	307.1	316.5	323.2
117.5°	292.0	294.5	297.0	299.4	301.9	307.4	315.8	324.2	332.6	341.0	347.4
120°	311.8	314.0	316.0	318.1	320.1	325.3	333.3	341.3	349.4	357.5	363.7
122.5°	332.9	334.3	335.6	337.0	338.3	342.8	350.6	358.4	366.2	374.0	379.7
125°	360.7	361.5	362.3	363.1	364.0	367.9	375.2	382.3	389.6	396.8	401.9
127.5°	388.6	389.2	389.8	390.3	390.9	394.3	400.4	406.6	412.6	418.8	423.7
130°	406.1	406.7	407.2	407.8	408.4	411.2	416.3	421.4	426.5	431.6	436.5
132.5°	421.9	422.6	423.4	424.2	425.0	427.4	431.4	435.6	439.6	443.7	448.4
135°	447.2	447.6	448.0	448.3	448.7	450.4	453.3	456.4	459.3	462.3	466.9
137.5°	468.8	469.4	469.9	470.5	471.1	472.2	473.9	475.5	477.3	478.9	483.1
140°	482.4	483.0	483.6	484.2	484.8	485.6	486.7	487.7	488.7	489.7	493.6
142.5°	495.8	496.2	496.8	497.2	497.6	498.0	498.4	498.9	499.3	499.8	503.2
145°	514.6	515.1	515.6	516.0	516.5	516.8	517.1	517.3	517.5	517.7	519.8
147.5°	531.3	531.8	532.2	532.7	533.1	533.5	533.7	533.9	534.1	534.3	535.0
150°	542.2	542.5	542.8	543.1	543.4	543.6	543.8	544.0	544.2	544.4	544.6
152.5°	552.0	552.1	552.3	552.4	552.6	552.7	552.8	552.9	553.0	553.2	553.5
155°	565.7	565.5	565.3	565.2	565.0	564.9	565.0	565.1	565.2	565.3	565.8
157.5°	576.5	576.4	576.4	576.4	576.4	576.3	576.2	576.1	576.0	575.9	576.5
160°	583.0	582.9	582.8	582.7	582.6	582.5	582.4	582.3	582.2	582.1	582.7
162.5°	589.2	589.0	588.7	588.4	588.1	587.9	587.8	587.7	587.6	587.5	588.2
165°	596.6	596.3	596.0	595.7	595.4	595.2	595.1	595.0	594.9	594.8	595.6
167.5°	602.5	602.1	601.7	601.3	600.9	600.7	600.7	600.7	600.7	600.7	601.5
170°	605.7	605.3	604.9	604.5	604.1	603.9	603.9	603.9	603.9	603.9	604.7
172.5°	607.8	607.4	606.9	606.4	605.9	605.7	605.8	605.9	606.0	606.0	606.8
175°	610.7	610.2	609.7	609.2	608.6	608.4	608.5	608.6	608.7	608.8	609.6
177.5°	611.4	611.0	610.6	610.2	609.8	609.7	609.8	609.8	609.9	610.0	610.6
180°	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7



TEST NUMBER: P332152-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-D

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°	153.0	161.1	169.2	174.4	176.8	179.2	181.6	184.0
90°	147.1	155.5	163.9	169.5	172.0	174.5	177.0	179.7
92.5°	141.2	149.7	158.1	163.5	165.7	168.0	170.4	172.6
95°	134.7	142.7	150.7	155.9	158.2	160.6	162.9	165.3
97.5°	127.3	135.1	142.9	148.0	150.5	153.0	155.4	157.8
100°	122.2	129.9	137.4	142.5	144.9	147.3	149.9	152.3
102.5°	125.0	129.2	133.3	136.6	139.2	141.7	144.2	146.7
105°	156.1	144.9	133.6	129.2	131.5	133.8	136.0	138.4
107.5°	240.4	233.7	226.8	217.8	206.4	195.0	183.6	172.3
110°	277.8	280.6	283.5	278.5	266.0	253.5	241.0	228.4



TEST NUMBER: P332152-840

CATALOG NUMBER: S123DIW-S775D460U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	302.1	308.0	314.0	316.5	315.6	314.6	313.6	312.7
115°	329.7	336.4	343.1	347.5	349.8	352.1	354.4	356.7
117.5°	353.9	360.2	366.6	370.7	372.6	374.6	376.5	378.4
120°	369.9	376.1	382.3	386.3	387.9	389.5	391.2	392.8
122.5°	385.5	391.3	397.1	400.8	402.5	404.2	406.0	407.7
125°	407.1	412.2	417.4	420.8	422.7	424.5	426.4	428.2
127.5°	428.7	433.7	438.7	441.8	443.2	444.6	446.1	447.5
130°	441.3	446.2	451.1	454.1	455.3	456.6	457.8	459.0
132.5°	453.0	457.8	462.4	465.4	466.8	468.1	469.4	470.7
135°	471.4	475.9	480.5	483.1	484.0	484.9	485.7	486.7
137.5°	487.4	491.5	495.7	498.3	499.3	500.3	501.2	502.2
140°	497.6	501.5	505.4	507.9	508.9	509.8	510.8	511.8
142.5°	506.6	510.2	513.6	515.8	516.7	517.6	518.5	519.4
145°	521.8	523.9	526.0	527.6	528.5	529.4	530.4	531.3
147.5°	535.8	536.5	537.3	538.0	538.3	538.7	539.1	539.5
150°	544.8	545.0	545.2	545.4	545.6	545.7	545.9	546.1
152.5°	553.9	554.2	554.6	554.6	554.2	553.9	553.5	553.1
155°	566.3	566.8	567.3	567.2	566.6	566.0	565.4	564.9
157.5°	577.1	577.7	578.3	578.2	577.4	576.7	575.9	575.1
160°	583.3	583.9	584.5	584.5	583.8	583.1	582.4	581.7
162.5°	589.0	589.7	590.3	590.4	589.7	589.1	588.4	587.8
165°	596.4	597.2	598.0	598.0	597.3	596.7	596.0	595.3
167.5°	602.3	603.0	603.8	603.8	603.0	602.3	601.5	600.7
170°	605.5	606.3	607.1	607.1	606.3	605.5	604.7	603.9
172.5°	607.6	608.4	609.3	609.3	608.3	607.4	606.6	605.7
175°	610.3	611.0	611.7	611.7	610.9	610.1	609.3	608.4
177.5°	611.3	611.9	612.6	612.5	611.7	610.9	610.1	609.3
180°	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7

(END OF REPORT)