

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: P332750-840

Luminaire Tested: **S124DIW-S575D470U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332750-840  
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-S575D470U840-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4160.0 lumens  
Efficiency: N/A  
Efficacy: 137.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct

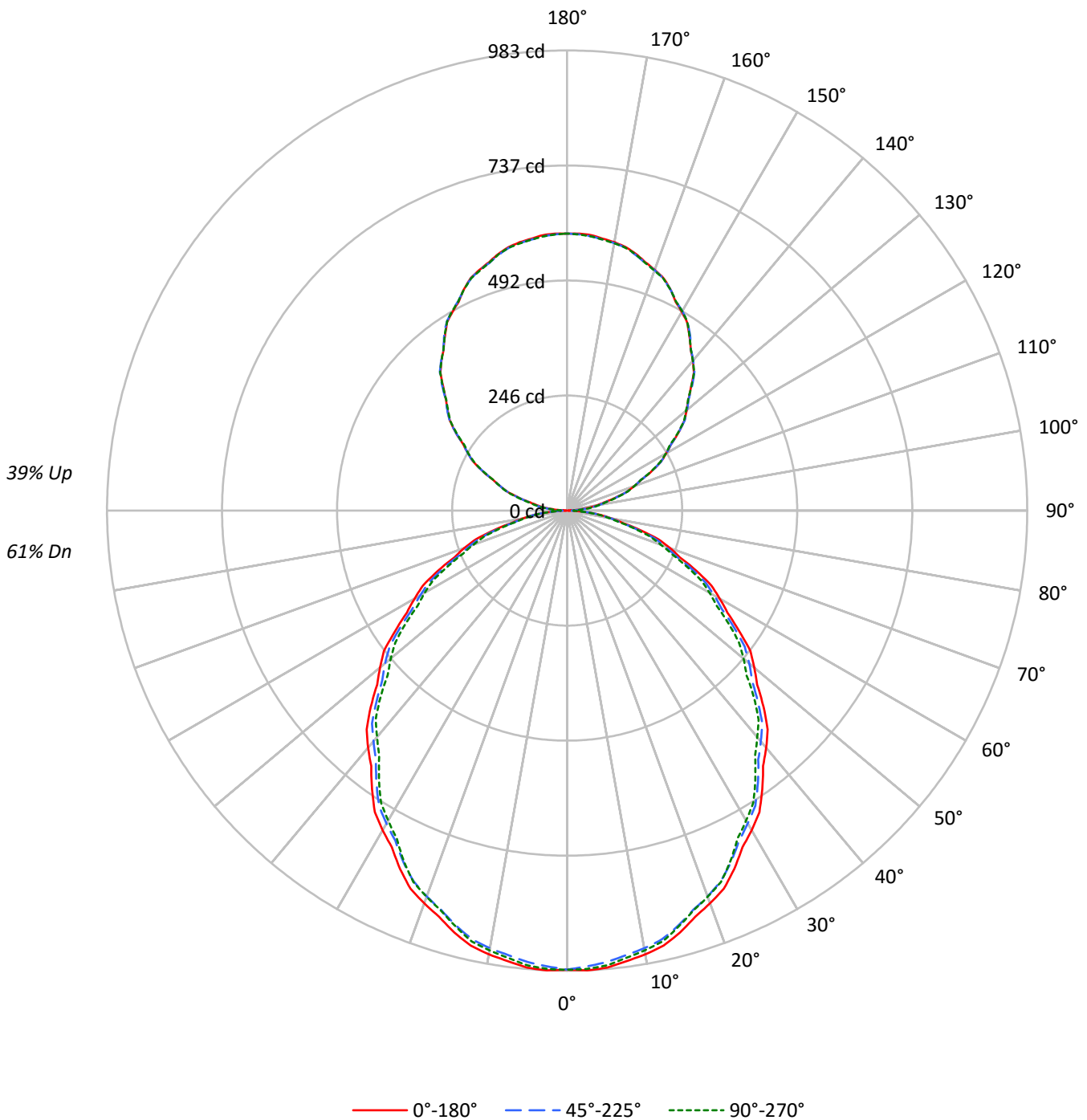
Input Watts (W): 30.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332750-840

CATALOG NUMBER: S124DIW-S575D470U840-4F0-1E-UDD-F1

### Luminous Intensity Polar Plot





TEST NUMBER: P332750-840

CATALOG NUMBER: S124DIW-S575D470U840-4F0-1E-UDD-F1

**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	110	110	110	110	103	103	103	103	89	89	89		77	77	77		66	66	66	61
1	100	96	92	88	93	90	86	83	78	76	73		68	66	64		58	57	55	51
2	91	84	77	72	85	78	73	68	69	64	61		59	56	54		51	49	47	43
3	83	73	66	60	77	69	62	57	60	55	51		53	49	45		45	42	40	36
4	76	65	57	51	71	61	54	48	54	48	44		47	42	39		40	37	34	31
5	70	58	50	44	65	55	47	42	48	42	38		42	37	34		36	33	30	27
6	64	52	44	38	60	49	42	36	43	37	33		38	33	30		33	29	26	24
7	60	47	39	33	56	44	37	32	39	33	29		35	30	26		30	26	23	21
8	55	43	35	30	52	41	33	28	36	30	26		32	27	23		28	24	21	19
9	52	39	32	26	48	37	30	25	33	27	23		29	24	21		26	22	19	17
10	48	36	29	24	45	34	27	23	31	25	21		27	22	19		24	20	17	15

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

	0°	45°	90°
0°	7917	7917	7917
5°	7942	7846	7903
10°	7891	7782	7820
15°	7796	7672	7691
20°	7669	7534	7541
25°	7525	7378	7357
30°	7347	7194	7127
35°	7164	7001	6908
40°	6973	6783	6658
45°	6774	6567	6441
50°	6553	6376	6178
55°	6315	6128	5928
60°	6077	5848	5670
65°	5809	5585	5358
70°	5509	5231	5028
75°	5050	4803	4682
80°	4491	4310	4203
85°	3927	3788	3714



TEST NUMBER: P332750-840

CATALOG NUMBER: S124DIW-S575D470U840-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.4	2.2
10°-20°	260.2	6.3
20°-30°	383.0	9.2
30°-40°	445.3	10.7
40°-50°	445.3	10.7
50°-60°	389.5	9.4
60°-70°	289.3	7.0
70°-80°	164.3	4.0
80°-90°	49.2	1.2
90°-100°	39.0	0.9
100°-110°	115.6	2.8
110°-120°	196.2	4.7
120°-130°	258.7	6.2
130°-140°	290.6	7.0
140°-150°	285.5	6.9
150°-160°	240.2	5.8
160°-170°	159.8	3.8
170°-180°	56.0	1.3
0°-30°	735.6	17.7
0°-40°	1180.9	28.4
0°-60°	2015.7	48.5
0°-90°	2518.5	60.5
90°-120°	350.9	8.4
90°-150°	1185.7	28.5
90°-180°	1642.0	39.5
0°-180°	4160.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	981	981	981	981	981	
5°	980	976	968	976	975	93
15°	933	929	918	922	920	263
25°	845	839	828	829	826	388
35°	727	721	710	705	701	454
45°	593	587	575	567	564	457
55°	449	446	435	426	421	402
65°	304	300	292	285	280	301
75°	162	158	154	151	150	172
85°	42	42	41	41	40	47
90°	1	6	10	13	14	4
95°	28	32	35	36	36	31
105°	107	107	109	110	112	113
115°	200	199	199	198	198	197
125°	290	290	290	289	288	259
135°	375	377	378	377	375	290
145°	455	457	458	457	456	285
155°	522	522	521	523	521	240
165°	568	566	566	568	566	160
175°	591	589	588	591	588	56
180°	592	592	592	592	592	



TEST NUMBER: P332750-840

CATALOG NUMBER: S124DIW-S575D470U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	980.7	980.7	980.7	980.7	980.7	980.7	980.7	980.7	980.7	980.7	980.7
2.5°	983.2	982.8	982.4	982.0	981.6	980.6	979.1	977.5	975.9	974.4	975.8
5°	980.0	979.3	978.6	977.9	977.1	975.8	973.9	972.0	970.1	968.2	970.1
7.5°	970.8	970.1	969.5	968.8	968.1	966.6	964.5	962.4	960.2	958.1	959.7
10°	962.6	962.0	961.3	960.6	959.9	958.4	956.1	953.8	951.6	949.3	950.7
12.5°	952.0	951.3	950.6	949.9	949.2	947.7	945.2	942.8	940.4	938.0	939.5
15°	932.8	932.1	931.4	930.7	930.0	928.4	925.7	923.1	920.5	917.9	918.9
17.5°	909.7	908.8	908.0	907.1	906.2	904.5	902.0	899.6	897.1	894.6	895.2
20°	892.7	891.8	891.0	890.1	889.2	887.5	884.8	882.2	879.6	877.0	877.5
22.5°	874.4	873.3	872.2	871.0	869.9	868.0	865.4	862.7	860.1	857.5	858.5
25°	844.8	843.5	842.3	841.1	839.9	838.1	835.6	833.1	830.7	828.3	828.5
27.5°	810.8	809.6	808.3	807.1	805.8	804.1	801.7	799.5	797.2	795.0	794.6
30°	788.2	786.8	785.4	784.0	782.6	780.7	778.5	776.2	774.0	771.7	771.0
32.5°	764.3	763.1	761.7	760.5	759.3	757.4	755.1	752.7	750.2	747.8	747.0
35°	726.9	725.7	724.5	723.3	722.1	720.1	717.7	715.3	712.9	710.4	709.1
37.5°	687.4	686.3	685.2	684.1	683.0	681.2	678.5	675.9	673.3	670.7	669.3
40°	661.7	660.2	658.8	657.5	656.1	654.1	651.5	648.8	646.2	643.6	641.9
42.5°	634.0	633.2	632.4	631.5	630.7	628.7	625.9	623.0	620.1	617.2	615.2
45°	593.3	592.1	590.9	589.7	588.4	586.4	583.6	580.8	578.0	575.2	573.3
47.5°	550.7	549.9	549.1	548.2	547.3	545.6	543.1	540.5	537.9	535.3	533.1
50°	521.8	521.1	520.4	519.7	519.0	517.5	515.0	512.5	510.1	507.7	505.2
52.5°	493.5	492.7	491.8	491.0	490.2	488.5	485.8	483.3	480.7	478.1	475.9
55°	448.7	448.2	447.7	447.2	446.7	445.1	442.7	440.2	437.8	435.4	433.2
57.5°	406.0	405.4	404.8	404.1	403.5	402.1	399.7	397.3	394.9	392.4	390.4
60°	376.4	375.6	374.7	373.8	372.9	371.3	369.1	366.8	364.6	362.2	360.7
62.5°	347.5	346.8	346.0	345.3	344.6	343.0	340.6	338.2	335.8	333.4	331.9
65°	304.1	303.3	302.4	301.5	300.6	299.3	297.6	295.8	294.1	292.4	290.5
67.5°	260.4	259.6	258.8	258.0	257.2	256.0	254.3	252.7	251.0	249.2	247.6
70°	233.4	232.2	231.0	229.7	228.5	227.2	225.8	224.4	223.0	221.6	220.3
72.5°	204.5	203.3	202.1	200.8	199.5	198.4	197.3	196.2	195.1	193.9	192.8
75°	161.9	161.0	160.2	159.3	158.3	157.5	156.6	155.7	154.9	154.0	153.3
77.5°	121.2	120.8	120.4	120.1	119.7	119.1	118.3	117.5	116.7	116.0	115.7
80°	96.6	96.1	95.6	95.1	94.5	94.1	93.8	93.4	93.1	92.7	92.4
82.5°	72.8	72.5	72.3	72.0	71.8	71.6	71.6	71.5	71.4	71.4	71.1
85°	42.4	42.4	42.4	42.4	42.4	42.2	41.9	41.6	41.2	40.9	40.9
87.5°	16.7	16.7	16.8	16.9	17.0	17.0	17.1	17.1	17.1	17.1	17.3
90°	1.4	2.5	3.6	4.7	5.9	6.8	7.7	8.5	9.3	10.1	10.7
92.5°	9.8	11.1	12.3	13.6	14.9	15.9	16.5	17.0	17.6	18.1	18.5
95°	27.5	28.4	29.3	30.2	31.1	31.9	32.6	33.3	34.0	34.7	35.0
97.5°	48.0	48.7	49.4	50.2	50.9	51.7	52.5	53.3	54.1	55.0	55.3
100°	64.0	64.4	64.8	65.2	65.7	66.3	67.3	68.2	69.1	70.0	70.2
102.5°	80.9	81.1	81.2	81.4	81.6	82.1	82.9	83.7	84.5	85.4	85.6
105°	106.6	106.7	106.8	106.9	107.0	107.2	107.7	108.1	108.5	108.9	109.2
107.5°	133.6	133.7	133.9	134.0	134.1	134.2	134.3	134.3	134.4	134.4	134.7
110°	151.9	152.1	152.3	152.5	152.7	152.8	152.7	152.6	152.5	152.4	152.2



TEST NUMBER: P332750-840

CATALOG NUMBER: S124DIW-S575D470U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	171.0	171.0	171.1	171.1	171.2	171.1	170.9	170.7	170.5	170.4	170.3
115°	199.5	199.5	199.5	199.5	199.5	199.4	199.2	199.0	198.8	198.6	198.5
117.5°	226.4	226.5	226.6	226.7	226.7	226.7	226.6	226.4	226.3	226.1	225.8
120°	244.4	244.8	245.2	245.6	246.0	246.0	245.7	245.4	245.1	244.8	244.3
122.5°	263.1	263.2	263.4	263.5	263.7	263.7	263.6	263.4	263.3	263.2	262.8
125°	290.5	290.5	290.5	290.5	290.5	290.5	290.4	290.3	290.2	290.1	289.9
127.5°	315.6	315.9	316.2	316.5	316.8	316.9	316.7	316.5	316.4	316.2	316.0
130°	333.2	333.5	333.8	334.1	334.4	334.5	334.5	334.5	334.5	334.5	334.3
132.5°	351.0	351.3	351.5	351.7	351.9	352.0	351.9	351.8	351.8	351.7	351.5
135°	374.8	375.4	376.0	376.6	377.2	377.5	377.5	377.5	377.5	377.5	377.3
137.5°	400.6	400.9	401.1	401.4	401.7	401.9	402.1	402.3	402.4	402.6	402.3
140°	417.8	418.0	418.2	418.4	418.6	418.7	418.7	418.7	418.7	418.7	418.6
142.5°	433.5	433.7	433.9	434.1	434.3	434.4	434.3	434.2	434.1	434.0	434.0
145°	455.3	455.8	456.2	456.6	457.0	457.2	457.3	457.4	457.5	457.6	457.5
147.5°	477.0	477.4	477.9	478.4	478.9	479.1	479.0	478.9	478.9	478.8	478.7
150°	490.1	490.5	490.9	491.3	491.7	491.9	491.9	491.9	491.9	491.9	491.9
152.5°	502.5	502.8	503.0	503.3	503.5	503.7	503.7	503.8	503.9	504.0	504.2
155°	521.7	521.7	521.7	521.7	521.7	521.6	521.5	521.4	521.3	521.2	521.6
157.5°	537.8	537.6	537.5	537.2	537.0	536.9	536.9	536.9	536.8	536.8	537.1
160°	547.3	547.2	547.1	547.0	546.9	546.8	546.7	546.6	546.5	546.4	546.7
162.5°	556.1	555.8	555.5	555.3	555.0	554.8	554.7	554.6	554.5	554.4	555.0
165°	567.8	567.5	567.2	566.9	566.6	566.4	566.2	566.0	565.8	565.6	566.2
167.5°	576.9	576.5	576.1	575.7	575.2	575.0	575.0	575.1	575.1	575.1	575.7
170°	582.1	581.6	581.1	580.6	580.1	579.9	580.0	580.1	580.2	580.3	580.9
172.5°	585.7	585.3	584.9	584.5	584.0	583.8	583.8	583.9	583.9	583.9	584.6
175°	590.8	590.3	589.8	589.3	588.8	588.4	588.3	588.2	588.1	588.0	588.8
177.5°	592.4	592.0	591.6	591.2	590.8	590.6	590.6	590.6	590.6	590.6	591.2
180°	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7



TEST NUMBER: P332750-840

CATALOG NUMBER: S124DIW-S575D470U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	980.7	980.7	980.7	980.7	980.7	980.7	980.7	980.7
2.5°	977.2	978.7	980.1	980.7	980.5	980.4	980.3	980.1
5°	972.0	973.9	975.8	976.6	976.2	975.9	975.5	975.2
7.5°	961.2	962.7	964.2	964.9	964.7	964.5	964.3	964.0
10°	952.1	953.5	954.9	955.4	955.0	954.7	954.3	954.0
12.5°	941.1	942.6	944.1	944.6	944.1	943.6	943.2	942.7
15°	920.0	921.0	922.0	922.3	921.8	921.3	920.7	920.2
17.5°	896.0	896.6	897.3	897.4	897.1	896.7	896.4	896.1
20°	878.1	878.6	879.1	879.2	878.8	878.5	878.2	877.8
22.5°	859.4	860.3	861.3	861.4	860.8	860.2	859.6	858.9
25°	828.6	828.8	829.0	828.7	828.0	827.3	826.6	825.9
27.5°	794.2	793.7	793.2	792.6	791.7	790.9	790.0	789.1
30°	770.3	769.6	768.9	768.1	767.2	766.4	765.5	764.6
32.5°	746.1	745.3	744.5	743.6	742.8	741.8	740.9	740.1
35°	707.9	706.7	705.5	704.5	703.6	702.7	701.9	700.9
37.5°	668.0	666.6	665.3	664.1	663.0	661.8	660.7	659.4
40°	640.2	638.3	636.6	635.3	634.4	633.6	632.7	631.8
42.5°	613.2	611.1	609.0	607.7	607.2	606.6	606.0	605.4
45°	571.4	569.5	567.5	566.3	565.8	565.3	564.7	564.2
47.5°	531.0	528.8	526.6	524.9	523.6	522.2	520.9	519.6
50°	502.7	500.3	497.9	496.1	495.0	494.0	493.0	491.9
52.5°	473.7	471.6	469.5	467.7	466.4	465.0	463.7	462.4
55°	431.2	429.1	427.0	425.4	424.3	423.3	422.2	421.2
57.5°	388.5	386.5	384.5	382.9	381.9	380.9	379.9	378.9
60°	359.1	357.6	356.0	354.8	353.9	353.0	352.1	351.2
62.5°	330.5	329.0	327.6	326.5	325.6	324.8	323.9	323.0
65°	288.8	287.1	285.4	284.1	283.2	282.3	281.4	280.5
67.5°	245.9	244.3	242.6	241.6	241.4	241.2	240.9	240.7
70°	218.8	217.4	216.0	215.1	214.5	214.0	213.5	213.0
72.5°	191.7	190.6	189.5	188.6	188.1	187.6	187.1	186.5
75°	152.6	151.9	151.3	150.8	150.6	150.5	150.3	150.1
77.5°	115.5	115.3	115.1	114.8	114.3	113.9	113.4	113.0
80°	92.0	91.7	91.3	91.1	90.9	90.7	90.6	90.4
82.5°	70.9	70.7	70.5	70.3	70.2	70.0	69.8	69.6
85°	40.9	40.9	40.9	40.8	40.6	40.4	40.3	40.1
87.5°	17.4	17.5	17.6	17.7	17.7	17.8	17.8	17.9
90°	11.3	11.9	12.5	12.9	13.1	13.3	13.5	13.7
92.5°	18.9	19.2	19.6	19.8	20.0	20.1	20.2	20.3
95°	35.3	35.6	36.0	36.2	36.2	36.2	36.2	36.2
97.5°	55.7	56.1	56.5	56.7	56.7	56.7	56.7	56.7
100°	70.4	70.6	70.8	70.9	70.9	70.9	70.9	70.9
102.5°	85.9	86.2	86.5	86.7	86.7	86.8	86.9	87.1
105°	109.6	109.9	110.2	110.5	110.8	111.1	111.4	111.7
107.5°	135.0	135.3	135.6	135.7	135.7	135.7	135.6	135.6
110°	152.0	151.8	151.6	151.6	151.9	152.2	152.5	152.8





TEST NUMBER: P332750-840

CATALOG NUMBER: S124DIW-S575D470U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	170.3	170.2	170.2	170.2	170.3	170.3	170.4	170.4
115°	198.4	198.3	198.2	198.1	198.0	197.9	197.8	197.7
117.5°	225.5	225.1	224.8	224.5	224.3	224.1	223.9	223.7
120°	243.8	243.3	242.8	242.7	242.9	243.1	243.3	243.5
122.5°	262.5	262.1	261.8	261.4	261.1	260.6	260.2	259.9
125°	289.7	289.5	289.3	289.1	288.9	288.7	288.5	288.3
127.5°	315.8	315.6	315.4	315.2	315.1	314.9	314.8	314.6
130°	334.1	333.9	333.7	333.4	333.0	332.5	332.1	331.7
132.5°	351.3	351.1	350.9	350.7	350.5	350.4	350.2	350.1
135°	377.1	376.9	376.7	376.5	376.2	375.9	375.6	375.3
137.5°	402.0	401.8	401.5	401.4	401.5	401.5	401.6	401.7
140°	418.5	418.4	418.3	418.2	418.1	418.0	417.9	417.8
142.5°	434.0	434.0	434.0	433.9	433.9	433.9	433.9	433.9
145°	457.4	457.3	457.2	457.0	456.7	456.4	456.1	455.8
147.5°	478.6	478.5	478.5	478.4	478.3	478.2	478.1	478.0
150°	491.9	491.9	491.9	491.9	491.8	491.7	491.6	491.5
152.5°	504.5	504.7	505.0	504.9	504.7	504.4	504.2	503.9
155°	522.0	522.4	522.8	522.8	522.4	522.0	521.6	521.2
157.5°	537.5	537.8	538.1	538.1	537.8	537.3	537.0	536.6
160°	547.0	547.3	547.6	547.5	547.0	546.5	545.9	545.4
162.5°	555.5	556.1	556.6	556.6	556.1	555.6	555.1	554.6
165°	566.8	567.4	568.0	568.2	567.7	567.3	566.9	566.5
167.5°	576.3	576.9	577.5	577.5	576.9	576.3	575.6	575.0
170°	581.5	582.1	582.7	582.6	581.9	581.2	580.5	579.8
172.5°	585.3	586.0	586.6	586.6	585.9	585.2	584.5	583.8
175°	589.5	590.2	590.9	590.9	590.2	589.5	588.8	588.0
177.5°	591.8	592.3	592.9	592.8	592.2	591.6	590.9	590.3
180°	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7

(END OF REPORT)