

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: P332756-935

Luminaire Tested: **S124DIW-S575D770U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332756-935  
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-S575D770U935-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

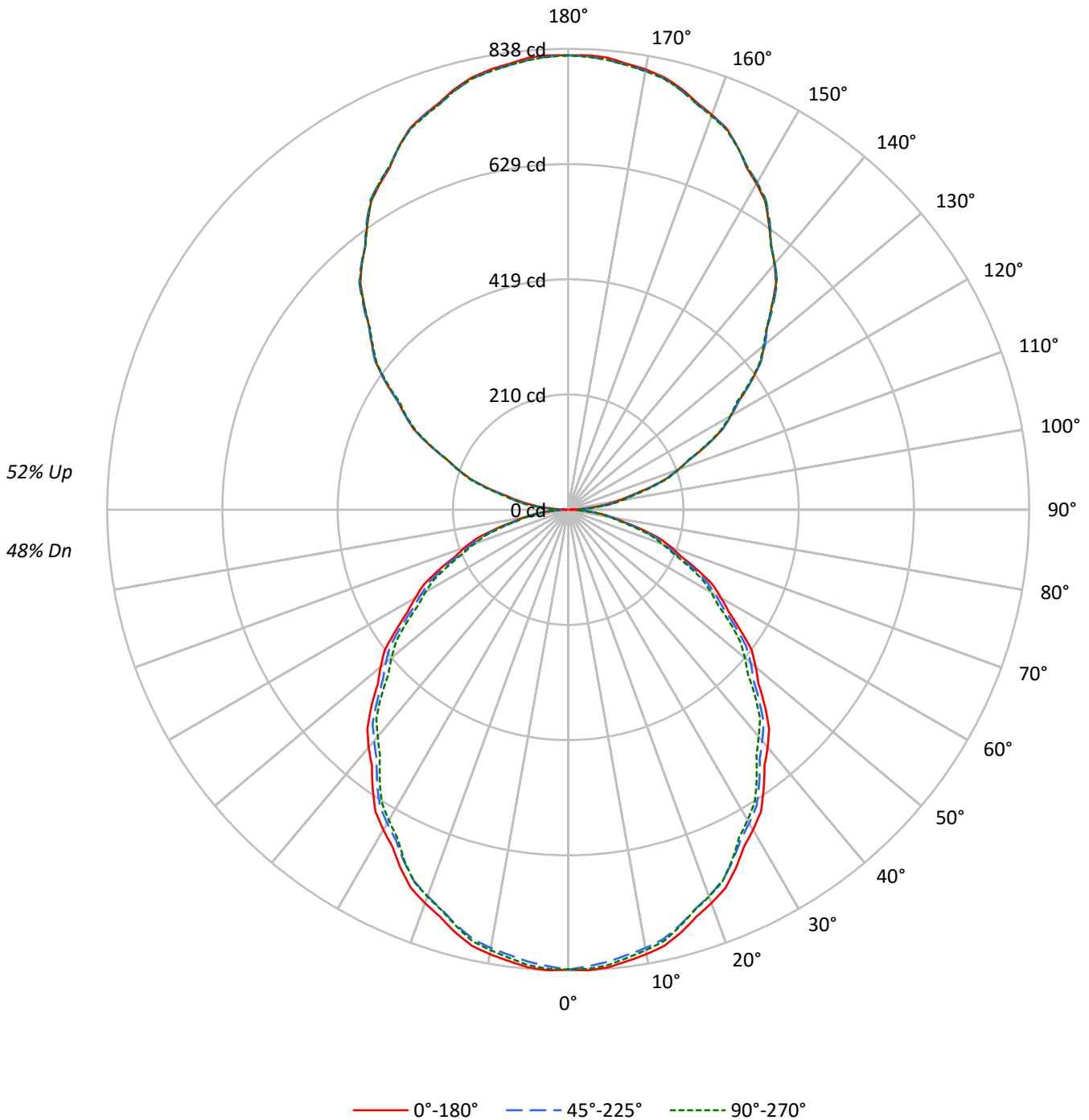
Lumens per Lamp: N/A  
Luminaire Lumens: 4440.5 lumens  
Efficiency: N/A  
Efficacy: 118.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 37.6  
Input Voltage (V): 120  
Input Current (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



TEST NUMBER: P332756-935

CATALOG NUMBER: S124DIW-S575D770U935-4F0-1E-UDD-F1

### 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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48				48
1	97	93	89	86	89	86	82	79	72	70	68	60	58	56	48	47	46	41				41
2	89	81	75	70	81	75	70	65	63	59	56	52	50	47	42	40	39	34				34
3	81	71	64	58	74	66	60	54	56	51	47	46	43	40	38	35	33	29				29
4	74	63	55	49	68	58	51	46	50	44	40	41	37	34	34	31	28	25				25
5	68	56	48	42	62	52	45	40	44	39	35	37	33	30	30	27	25	21				21
6	63	50	42	37	57	47	40	34	40	34	30	33	29	26	27	24	22	19				19
7	58	46	38	32	53	42	35	30	36	31	27	30	26	23	25	22	19	17				17
8	54	41	34	28	49	38	32	27	33	27	24	28	24	20	23	20	17	15				15
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	21	18	16	14				14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	12				12

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

	0°	45°	90°
0°	6750	6750	6750
5°	6771	6689	6738
10°	6728	6634	6668
15°	6647	6541	6557
20°	6539	6424	6430
25°	6415	6290	6272
30°	6264	6134	6077
35°	6107	5969	5889
40°	5945	5782	5676
45°	5775	5599	5492
50°	5588	5436	5267
55°	5384	5225	5054
60°	5181	4986	4836
65°	4951	4762	4569
70°	4697	4459	4286
75°	4304	4095	3989
80°	3831	3673	3584
85°	3353	3233	3168



TEST NUMBER: P332756-935

CATALOG NUMBER: S124DIW-S575D770U935-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.7	1.8
10°-20°	221.9	5.0
20°-30°	326.6	7.4
30°-40°	379.6	8.5
40°-50°	379.6	8.5
50°-60°	332.1	7.5
60°-70°	246.6	5.6
70°-80°	140.1	3.2
80°-90°	42.9	1.0
90°-100°	54.5	1.2
100°-110°	161.4	3.6
110°-120°	274.0	6.2
120°-130°	361.3	8.1
130°-140°	405.8	9.1
140°-150°	398.7	9.0
150°-160°	335.4	7.6
160°-170°	223.1	5.0
170°-180°	78.1	1.8
0°-30°	627.2	14.1
0°-40°	1006.8	22.7
0°-60°	1718.5	38.7
0°-90°	2148.2	48.4
90°-120°	489.9	11.0
90°-150°	1655.8	37.3
90°-180°	2292.0	51.6
0°-180°	4440.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	836	836	836	836	836	
5°	836	833	825	832	832	79
15°	795	792	783	786	784	224
25°	720	715	706	707	704	331
35°	620	615	606	601	598	387
45°	506	501	490	483	481	390
55°	382	380	371	363	359	343
65°	259	256	249	243	239	257
75°	138	135	131	129	128	147
85°	36	36	35	35	34	40
90°	2	9	14	18	19	4
95°	38	44	49	50	50	43
105°	149	150	152	154	156	158
115°	279	278	277	277	276	275
125°	406	406	405	404	403	362
135°	523	527	527	526	524	405
145°	636	638	639	638	636	398
155°	728	728	728	730	728	335
165°	793	791	790	793	791	223
175°	825	822	821	825	821	78
180°	826	826	826	826	826	



TEST NUMBER: P332756-935

CATALOG NUMBER: S124DIW-S575D770U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	836.1	836.1	836.1	836.1	836.1	836.1	836.1	836.1	836.1	836.1	836.1
2.5°	838.3	837.9	837.6	837.2	836.9	836.0	834.7	833.4	832.1	830.8	832.0
5°	835.5	834.9	834.3	833.7	833.1	832.0	830.3	828.7	827.1	825.4	827.1
7.5°	827.7	827.1	826.6	826.0	825.4	824.1	822.3	820.5	818.6	816.8	818.2
10°	820.7	820.2	819.6	819.0	818.4	817.1	815.2	813.2	811.3	809.3	810.5
12.5°	811.7	811.1	810.5	809.9	809.3	808.0	805.9	803.8	801.8	799.7	801.0
15°	795.3	794.7	794.1	793.5	792.9	791.5	789.3	787.0	784.8	782.6	783.4
17.5°	775.6	774.8	774.1	773.4	772.6	771.2	769.0	767.0	764.8	762.8	763.3
20°	761.1	760.3	759.7	758.9	758.1	756.6	754.4	752.2	749.9	747.7	748.1
22.5°	745.5	744.6	743.6	742.6	741.7	740.0	737.8	735.6	733.3	731.1	731.9
25°	720.2	719.2	718.2	717.1	716.1	714.5	712.4	710.3	708.3	706.2	706.4
27.5°	691.3	690.3	689.1	688.1	687.0	685.5	683.5	681.7	679.7	677.8	677.4
30°	672.0	670.8	669.6	668.4	667.3	665.6	663.7	661.8	659.9	658.0	657.4
32.5°	651.6	650.6	649.5	648.4	647.4	645.8	643.8	641.7	639.6	637.6	636.9
35°	619.7	618.7	617.7	616.6	615.6	614.0	611.9	609.8	607.8	605.7	604.6
37.5°	586.1	585.1	584.2	583.2	582.3	580.7	578.5	576.3	574.0	571.8	570.7
40°	564.1	562.9	561.7	560.6	559.4	557.7	555.4	553.2	551.0	548.7	547.3
42.5°	540.5	539.8	539.2	538.4	537.7	536.1	533.6	531.2	528.7	526.2	524.5
45°	505.8	504.8	503.8	502.7	501.7	500.0	497.6	495.2	492.8	490.4	488.8
47.5°	469.5	468.8	468.1	467.4	466.7	465.2	463.0	460.8	458.6	456.4	454.5
50°	444.9	444.3	443.7	443.1	442.5	441.2	439.1	437.0	434.9	432.8	430.8
52.5°	420.8	420.1	419.3	418.6	417.9	416.5	414.2	412.1	409.8	407.6	405.8
55°	382.5	382.1	381.7	381.3	380.8	379.5	377.5	375.3	373.2	371.2	369.4
57.5°	346.1	345.6	345.1	344.6	344.1	342.9	340.8	338.7	336.7	334.6	332.9
60°	320.9	320.2	319.4	318.7	318.0	316.6	314.7	312.7	310.8	308.8	307.5
62.5°	296.3	295.7	295.0	294.4	293.8	292.4	290.4	288.3	286.3	284.2	283.0
65°	259.2	258.6	257.8	257.1	256.3	255.2	253.7	252.2	250.7	249.3	247.7
67.5°	222.1	221.4	220.7	220.0	219.3	218.3	216.8	215.4	214.0	212.5	211.1
70°	199.0	197.9	196.9	195.9	194.8	193.7	192.5	191.3	190.1	188.9	187.8
72.5°	174.4	173.3	172.3	171.2	170.1	169.2	168.2	167.3	166.3	165.3	164.4
75°	138.0	137.2	136.6	135.8	135.0	134.3	133.5	132.8	132.1	131.3	130.7
77.5°	103.3	103.0	102.6	102.4	102.0	101.5	100.8	100.2	99.5	98.9	98.7
80°	82.4	82.0	81.5	81.1	80.6	80.2	80.0	79.6	79.4	79.0	78.8
82.5°	62.1	61.8	61.6	61.4	61.2	61.0	61.0	61.0	60.9	60.9	60.6
85°	36.2	36.2	36.2	36.2	36.2	36.0	35.7	35.5	35.1	34.9	34.9
87.5°	14.3	14.6	14.7	14.9	15.1	15.2	15.3	15.5	15.6	15.7	15.8
90°	1.9	3.4	5.1	6.6	8.2	9.6	10.7	11.8	12.9	14.0	14.9
92.5°	13.7	15.5	17.2	19.0	20.8	22.1	22.9	23.7	24.5	25.3	25.8
95°	38.3	39.6	40.9	42.2	43.5	44.6	45.5	46.6	47.6	48.6	49.0
97.5°	67.0	68.0	69.1	70.0	71.0	72.2	73.4	74.5	75.7	76.8	77.3
100°	89.5	90.1	90.6	91.2	91.7	92.6	93.9	95.2	96.5	97.8	98.1
102.5°	113.0	113.2	113.4	113.7	113.9	114.6	115.7	116.9	118.0	119.2	119.7
105°	148.9	149.0	149.2	149.3	149.5	149.8	150.4	150.9	151.5	152.1	152.5
107.5°	186.6	186.8	186.9	187.1	187.3	187.4	187.5	187.6	187.7	187.8	188.1
110°	212.2	212.4	212.8	213.0	213.3	213.4	213.2	213.1	212.9	212.8	212.5



TEST NUMBER: P332756-935

CATALOG NUMBER: S124DIW-S575D770U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	238.8	238.8	238.8	238.9	238.9	238.8	238.6	238.3	238.1	237.8	237.8
115°	278.6	278.6	278.6	278.6	278.6	278.4	278.2	277.9	277.6	277.3	277.2
117.5°	316.2	316.3	316.4	316.5	316.7	316.6	316.4	316.2	316.0	315.8	315.3
120°	341.2	341.8	342.3	342.9	343.5	343.5	343.2	342.8	342.3	341.9	341.1
122.5°	367.3	367.6	367.7	368.0	368.2	368.2	368.1	367.8	367.6	367.5	367.0
125°	405.8	405.8	405.8	405.8	405.8	405.7	405.5	405.4	405.3	405.1	404.8
127.5°	440.7	441.1	441.5	442.0	442.4	442.5	442.2	442.0	441.8	441.6	441.3
130°	465.2	465.6	466.1	466.5	466.9	467.1	467.1	467.1	467.1	467.1	466.8
132.5°	490.3	490.6	490.9	491.2	491.5	491.6	491.5	491.4	491.3	491.1	490.9
135°	523.4	524.2	525.0	525.9	526.8	527.2	527.2	527.2	527.2	527.2	526.9
137.5°	559.4	559.8	560.2	560.6	561.0	561.3	561.5	561.7	562.0	562.2	561.8
140°	583.4	583.7	584.0	584.3	584.5	584.7	584.7	584.7	584.7	584.7	584.5
142.5°	605.4	605.7	606.0	606.2	606.6	606.7	606.5	606.4	606.3	606.1	606.1
145°	635.8	636.4	637.0	637.6	638.1	638.4	638.6	638.8	638.9	639.0	638.9
147.5°	666.0	666.7	667.4	668.0	668.7	669.0	668.9	668.7	668.7	668.6	668.4
150°	684.4	684.9	685.5	686.1	686.6	687.0	687.0	687.0	687.0	687.0	687.0
152.5°	701.8	702.1	702.5	702.8	703.2	703.4	703.4	703.6	703.7	703.8	704.1
155°	728.5	728.5	728.5	728.5	728.5	728.4	728.2	728.1	728.0	727.9	728.4
157.5°	751.0	750.7	750.4	750.2	749.9	749.8	749.8	749.8	749.8	749.7	750.1
160°	764.3	764.1	764.0	763.9	763.7	763.5	763.4	763.3	763.1	763.0	763.4
162.5°	776.5	776.2	775.8	775.4	775.1	774.8	774.6	774.6	774.4	774.2	775.0
165°	793.1	792.6	792.2	791.8	791.3	791.0	790.7	790.4	790.1	789.8	790.7
167.5°	805.6	805.1	804.5	803.9	803.3	803.0	803.1	803.1	803.1	803.1	804.0
170°	812.9	812.1	811.4	810.7	810.0	809.7	809.9	810.0	810.1	810.3	811.1
172.5°	817.9	817.3	816.7	816.1	815.5	815.3	815.3	815.4	815.4	815.4	816.4
175°	825.0	824.2	823.5	822.9	822.2	821.7	821.6	821.4	821.3	821.1	822.2
177.5°	827.2	826.7	826.1	825.6	825.0	824.8	824.8	824.8	824.8	824.8	825.5
180°	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2



TEST NUMBER: P332756-935

CATALOG NUMBER: S124DIW-S575D770U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	836.1	836.1	836.1	836.1	836.1	836.1	836.1	836.1
2.5°	833.2	834.4	835.6	836.1	835.9	835.9	835.8	835.6
5°	828.7	830.3	832.0	832.7	832.3	832.1	831.7	831.5
7.5°	819.5	820.8	822.1	822.7	822.5	822.3	822.2	821.9
10°	811.8	813.0	814.2	814.6	814.2	814.0	813.6	813.4
12.5°	802.4	803.7	804.9	805.4	804.9	804.5	804.2	803.7
15°	784.4	785.2	786.1	786.4	785.9	785.5	785.0	784.5
17.5°	763.9	764.4	765.0	765.1	764.8	764.5	764.2	764.0
20°	748.6	749.1	749.5	749.6	749.2	749.0	748.7	748.4
22.5°	732.7	733.5	734.3	734.4	733.9	733.4	732.9	732.3
25°	706.5	706.6	706.8	706.5	705.9	705.3	704.7	704.1
27.5°	677.1	676.7	676.3	675.8	675.0	674.3	673.6	672.8
30°	656.8	656.2	655.6	654.9	654.1	653.4	652.6	651.9
32.5°	636.1	635.4	634.7	634.0	633.3	632.5	631.7	631.0
35°	603.6	602.5	601.5	600.6	599.9	599.1	598.4	597.6
37.5°	569.6	568.3	567.2	566.2	565.2	564.2	563.3	562.2
40°	545.8	544.2	542.8	541.7	540.9	540.2	539.4	538.6
42.5°	522.8	521.0	519.3	518.1	517.7	517.2	516.7	516.2
45°	487.2	485.5	483.9	482.8	482.4	482.0	481.5	481.0
47.5°	452.7	450.8	449.0	447.5	446.4	445.2	444.1	443.0
50°	428.6	426.5	424.5	423.0	422.1	421.2	420.3	419.4
52.5°	403.9	402.1	400.3	398.7	397.6	396.5	395.4	394.3
55°	367.6	365.8	364.0	362.7	361.8	360.9	360.0	359.1
57.5°	331.2	329.5	327.8	326.5	325.6	324.8	323.9	323.0
60°	306.2	304.9	303.5	302.5	301.7	301.0	300.2	299.5
62.5°	281.8	280.5	279.3	278.4	277.6	276.9	276.1	275.3
65°	246.2	244.8	243.3	242.2	241.4	240.6	240.0	239.2
67.5°	209.7	208.3	206.8	206.0	205.8	205.6	205.3	205.2
70°	186.6	185.4	184.2	183.4	182.9	182.4	182.0	181.6
72.5°	163.4	162.5	161.5	160.8	160.4	160.0	159.5	159.0
75°	130.1	129.5	129.0	128.5	128.4	128.3	128.1	127.9
77.5°	98.5	98.3	98.2	97.9	97.5	97.1	96.7	96.3
80°	78.4	78.2	77.8	77.7	77.5	77.3	77.2	77.1
82.5°	60.4	60.3	60.1	59.9	59.8	59.7	59.5	59.3
85°	34.9	34.9	34.9	34.8	34.6	34.4	34.4	34.2
87.5°	16.0	16.2	16.4	16.4	16.5	16.6	16.6	16.7
90°	15.8	16.6	17.5	18.0	18.3	18.6	18.9	19.2
92.5°	26.3	26.9	27.4	27.7	27.9	28.1	28.2	28.4
95°	49.4	49.9	50.3	50.5	50.5	50.5	50.5	50.5
97.5°	77.8	78.4	78.9	79.1	79.1	79.1	79.1	79.1
100°	98.3	98.6	98.9	99.0	99.0	99.0	99.0	99.0
102.5°	120.0	120.5	120.8	121.1	121.2	121.3	121.4	121.6
105°	152.9	153.3	153.8	154.2	154.6	155.1	155.5	155.9
107.5°	188.6	188.9	189.3	189.5	189.5	189.5	189.4	189.4
110°	212.2	212.0	211.6	211.7	212.2	212.6	213.0	213.4





TEST NUMBER: P332756-935

CATALOG NUMBER: S124DIW-S575D770U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	237.7	237.6	237.6	237.6	237.7	237.8	237.9	238.0
115°	277.1	276.9	276.7	276.6	276.5	276.4	276.2	276.0
117.5°	314.9	314.4	313.8	313.5	313.2	312.9	312.6	312.4
120°	340.4	339.8	339.1	338.8	339.1	339.4	339.7	339.9
122.5°	366.4	366.0	365.5	365.0	364.5	363.9	363.5	363.0
125°	404.6	404.3	404.0	403.7	403.5	403.1	402.9	402.6
127.5°	441.0	440.7	440.4	440.1	440.0	439.7	439.5	439.3
130°	466.6	466.2	466.0	465.5	465.0	464.4	463.8	463.3
132.5°	490.6	490.3	490.0	489.7	489.6	489.3	489.0	488.9
135°	526.6	526.3	526.1	525.7	525.3	524.9	524.4	524.0
137.5°	561.5	561.1	560.8	560.6	560.7	560.8	560.9	560.9
140°	584.4	584.3	584.1	584.0	583.8	583.7	583.6	583.4
142.5°	606.1	606.1	606.1	606.1	606.0	606.0	606.0	605.9
145°	638.8	638.6	638.4	638.2	637.7	637.3	636.9	636.5
147.5°	668.3	668.2	668.0	668.0	667.8	667.7	667.5	667.4
150°	687.0	687.0	687.0	686.9	686.7	686.6	686.5	686.3
152.5°	704.5	704.8	705.2	705.2	704.8	704.5	704.0	703.7
155°	729.0	729.5	730.1	730.1	729.5	729.0	728.4	727.9
157.5°	750.5	751.0	751.4	751.4	750.9	750.4	749.9	749.4
160°	763.9	764.3	764.7	764.6	763.9	763.1	762.4	761.7
162.5°	775.8	776.5	777.3	777.3	776.6	775.9	775.2	774.5
165°	791.5	792.4	793.2	793.4	792.8	792.2	791.7	791.1
167.5°	804.9	805.6	806.5	806.5	805.6	804.8	803.9	803.0
170°	812.0	812.9	813.7	813.6	812.6	811.7	810.6	809.7
172.5°	817.3	818.3	819.2	819.2	818.2	817.3	816.2	815.3
175°	823.1	824.1	825.1	825.1	824.1	823.1	822.2	821.1
177.5°	826.3	827.1	827.9	827.9	826.9	826.0	825.1	824.2
180°	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2

(END OF REPORT)