

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: P332724-930

Luminaire Tested: **S124DIW-S350D770U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332724-930
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-S350D770U930-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP 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: 3347.8 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

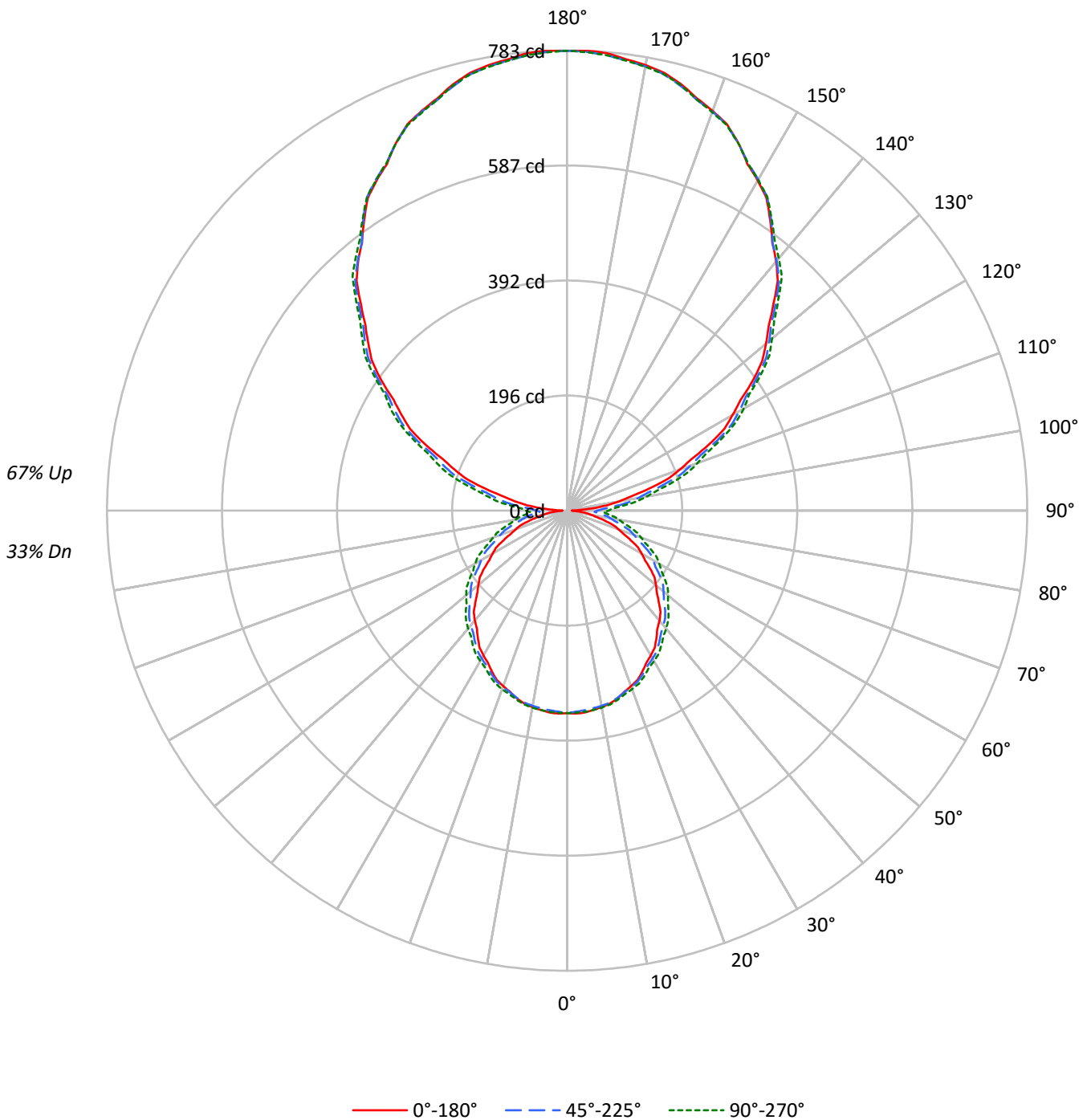
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332724-930

CATALOG NUMBER: S124DIW-S350D770U930-4F0-1E-UDD-D1

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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	93	89	85	81	84	80	76	73	63	61	59	48	47	45	34	33	32	26
2	85	77	71	66	76	69	64	60	55	51	48	42	39	37	30	28	27	21
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	26	24	22	18
4	70	59	52	45	63	54	47	42	43	38	34	33	29	26	23	21	19	15
5	64	53	45	39	57	48	41	35	38	33	29	29	26	23	21	18	17	13
6	59	47	39	33	53	43	36	31	34	29	25	26	23	20	19	16	14	11
7	54	42	34	29	49	38	31	27	31	26	22	24	20	17	17	15	13	10
8	50	38	31	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	32	25	21	26	21	17	20	16	14	14	12	10	8
10	44	32	25	20	39	29	23	18	23	19	15	18	15	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2782	2782	2782
5°	2791	2719	2726
10°	2774	2675	2673
15°	2749	2623	2608
20°	2711	2566	2547
25°	2669	2503	2478
30°	2623	2439	2408
35°	2571	2374	2347
40°	2530	2313	2282
45°	2468	2256	2228
50°	2417	2190	2169
55°	2363	2129	2101
60°	2280	2049	2039
65°	2187	1965	1962
70°	2076	1868	1874
75°	1922	1763	1793
80°	1750	1660	1713
85°	1534	1571	1669



TEST NUMBER: P332724-930

CATALOG NUMBER: S124DIW-S350D770U930-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.6	1.0
10°-20°	93.5	2.8
20°-30°	141.4	4.2
30°-40°	171.1	5.1
40°-50°	180.8	5.4
50°-60°	170.2	5.1
60°-70°	141.2	4.2
70°-80°	99.2	3.0
80°-90°	58.4	1.7
90°-100°	84.9	2.5
100°-110°	177.5	5.3
110°-120°	276.0	8.2
120°-130°	351.5	10.5
130°-140°	388.3	11.6
140°-150°	378.4	11.3
150°-160°	317.6	9.5
160°-170°	211.3	6.3
170°-180°	74.0	2.2
0°-30°	267.5	8.0
0°-40°	438.6	13.1
0°-60°	789.6	23.6
0°-90°	1088.4	32.5
90°-120°	538.4	16.1
90°-150°	1656.6	49.5
90°-180°	2259.0	67.5
0°-180°	3347.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	345	345	345	345	345	
5°	345	344	341	344	344	33
15°	331	331	330	333	333	93
25°	303	305	306	310	311	139
35°	265	269	273	278	280	166
45°	221	228	235	242	244	171
55°	173	181	193	200	203	154
65°	120	132	145	154	158	119
75°	66	81	97	107	111	71
85°	20	37	54	65	70	22
90°	8	30	52	66	71	6
95°	41	60	80	91	95	44
105°	144	153	170	181	186	154
115°	266	270	281	288	291	263
125°	386	386	394	400	402	344
135°	496	500	503	507	508	384
145°	602	604	605	607	607	377
155°	690	690	689	691	689	317
165°	751	749	748	751	749	212
175°	781	778	778	781	778	74
180°	782	782	782	782	782	



TEST NUMBER: P332724-930

CATALOG NUMBER: S124DIW-S350D770U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	345.8	345.6	345.4	345.2	345.0	344.6	344.1	343.6	343.0	342.4	342.9
5°	345.0	344.7	344.5	344.2	344.0	343.6	342.9	342.3	341.8	341.1	341.9
7.5°	342.1	341.9	341.8	341.6	341.4	341.1	340.6	340.1	339.7	339.2	339.9
10°	339.6	339.5	339.4	339.3	339.2	339.0	338.6	338.1	337.7	337.3	338.0
12.5°	336.2	336.1	336.1	336.1	336.1	336.0	335.7	335.4	335.1	334.8	335.5
15°	330.7	330.8	330.9	331.0	331.1	331.0	330.7	330.4	330.2	330.0	330.7
17.5°	323.3	323.5	323.8	324.0	324.2	324.4	324.3	324.2	324.2	324.2	325.0
20°	318.0	318.2	318.5	318.8	319.0	319.2	319.3	319.4	319.4	319.5	320.4
22.5°	312.1	312.4	312.7	313.1	313.4	313.6	313.8	314.0	314.1	314.3	315.1
25°	302.6	303.0	303.6	304.1	304.6	305.0	305.2	305.5	305.7	306.1	307.0
27.5°	291.9	292.7	293.4	294.2	294.9	295.5	295.9	296.3	296.7	297.1	297.9
30°	284.8	285.5	286.2	286.8	287.6	288.2	288.8	289.3	290.0	290.6	291.6
32.5°	277.1	277.9	278.8	279.6	280.4	281.1	281.8	282.4	283.2	283.8	284.9
35°	264.7	265.8	266.8	267.8	268.9	269.8	270.7	271.5	272.4	273.2	274.4
37.5°	252.3	253.5	254.7	255.8	257.1	258.1	259.3	260.3	261.4	262.4	263.7
40°	244.3	245.4	246.5	247.6	248.7	249.9	251.1	252.3	253.5	254.7	256.0
42.5°	235.1	236.3	237.5	238.8	240.0	241.3	242.8	244.2	245.6	247.0	248.4
45°	220.7	222.3	224.0	225.6	227.2	228.9	230.5	232.1	233.7	235.4	236.8
47.5°	207.1	208.8	210.4	212.1	213.8	215.6	217.4	219.4	221.3	223.1	224.6
50°	197.2	199.1	201.0	202.8	204.7	206.6	208.6	210.4	212.3	214.2	215.9
52.5°	187.4	189.2	191.1	193.0	194.9	196.9	199.0	201.2	203.3	205.5	207.2
55°	172.9	174.7	176.5	178.3	180.1	182.3	184.8	187.4	190.0	192.6	194.3
57.5°	156.8	159.0	161.2	163.5	165.7	168.0	170.6	173.2	175.7	178.3	180.3
60°	146.3	148.5	150.7	153.0	155.2	157.7	160.5	163.4	166.2	169.0	171.0
62.5°	136.1	138.5	141.0	143.4	145.8	148.5	151.2	154.1	156.9	159.8	161.8
65°	119.6	122.4	125.1	127.8	130.6	133.5	136.3	139.3	142.2	145.1	147.2
67.5°	103.8	106.7	109.7	112.6	115.4	118.5	121.6	124.7	127.8	130.9	133.1
70°	93.0	95.9	98.8	101.7	104.7	107.8	111.0	114.3	117.6	120.8	123.1
72.5°	82.5	85.5	88.5	91.5	94.4	97.7	101.1	104.6	108.0	111.5	113.7
75°	66.4	69.5	72.7	75.9	79.1	82.4	86.1	89.7	93.3	96.9	99.3
77.5°	51.4	54.7	58.0	61.4	64.7	68.3	72.1	75.9	79.7	83.4	85.9
80°	42.1	45.5	48.9	52.3	55.8	59.4	63.2	66.9	70.7	74.5	77.0
82.5°	32.8	36.4	39.9	43.5	47.0	50.7	54.5	58.3	62.0	65.9	68.5
85°	20.5	24.1	27.6	31.2	34.9	38.6	42.5	46.3	50.1	54.1	56.6
87.5°	11.8	15.6	19.4	23.2	27.0	30.8	34.8	38.8	42.7	46.7	49.4
90°	8.0	12.9	17.8	22.7	27.6	32.4	37.3	42.0	46.7	51.5	54.8
92.5°	18.8	23.6	28.4	33.2	37.9	42.6	47.0	51.4	55.8	60.3	63.2
95°	41.3	45.3	49.4	53.5	57.5	61.7	66.2	70.7	75.1	79.6	82.3
97.5°	68.0	71.3	74.8	78.2	81.6	85.6	90.2	94.7	99.3	104.0	106.6
100°	88.9	91.7	94.5	97.3	100.0	103.7	108.3	112.8	117.3	121.9	124.5
102.5°	111.2	113.4	115.5	117.7	119.9	123.2	127.6	131.9	136.3	140.7	143.3
105°	144.5	146.3	148.1	150.0	151.9	154.7	158.3	162.1	165.8	169.5	172.0
107.5°	180.1	181.6	183.2	184.8	186.4	188.7	191.8	194.9	198.0	201.0	203.5
110°	204.0	205.5	206.9	208.4	209.9	212.1	214.9	217.8	220.6	223.5	225.2



TEST NUMBER: P332724-930

CATALOG NUMBER: S124DIW-S350D770U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	228.9	230.0	231.1	232.2	233.3	235.2	237.8	240.4	243.0	245.6	247.5
115°	266.1	266.9	267.7	268.5	269.2	270.8	273.3	275.8	278.3	280.8	282.5
117.5°	301.7	302.2	302.8	303.4	303.9	305.4	307.8	310.1	312.5	314.9	316.2
120°	325.1	325.9	326.6	327.4	328.2	329.7	331.7	333.9	335.9	338.0	339.1
122.5°	349.8	350.0	350.3	350.6	350.8	352.0	354.2	356.4	358.5	360.7	361.9
125°	385.8	385.7	385.6	385.6	385.5	386.4	388.4	390.4	392.4	394.4	395.8
127.5°	418.7	419.1	419.4	419.7	420.0	420.9	422.3	423.8	425.2	426.6	427.9
130°	441.6	442.0	442.3	442.6	443.0	443.8	445.2	446.5	447.9	449.3	450.5
132.5°	465.4	465.6	465.8	466.0	466.3	466.8	467.8	468.8	469.8	470.8	472.0
135°	496.4	497.2	498.0	498.8	499.6	500.3	500.9	501.5	502.1	502.7	503.8
137.5°	530.5	530.8	531.1	531.3	531.7	532.1	532.6	533.0	533.5	534.1	535.0
140°	553.3	553.4	553.6	553.8	554.0	554.1	554.2	554.2	554.3	554.4	555.5
142.5°	573.7	574.0	574.2	574.5	574.8	574.8	574.6	574.5	574.3	574.1	575.1
145°	602.4	602.9	603.4	603.8	604.3	604.5	604.7	604.9	605.0	605.1	605.5
147.5°	631.0	631.6	632.2	632.7	633.2	633.5	633.4	633.2	633.2	633.1	633.0
150°	648.5	648.9	649.4	649.8	650.3	650.5	650.5	650.5	650.5	650.5	650.5
152.5°	664.6	664.9	665.2	665.5	665.9	666.0	666.1	666.3	666.3	666.4	666.8
155°	689.8	689.8	689.8	689.8	689.8	689.7	689.6	689.5	689.3	689.3	689.7
157.5°	711.1	710.9	710.6	710.4	710.1	710.0	710.0	710.0	710.0	709.9	710.3
160°	723.7	723.6	723.4	723.3	723.2	723.0	722.9	722.8	722.6	722.5	722.9
162.5°	735.3	735.0	734.6	734.3	733.9	733.7	733.5	733.4	733.3	733.1	733.9
165°	751.0	750.6	750.2	749.7	749.3	749.0	748.7	748.4	748.2	747.9	748.7
167.5°	762.9	762.4	761.8	761.2	760.7	760.3	760.4	760.4	760.4	760.5	761.3
170°	769.7	769.0	768.3	767.7	767.0	766.7	766.9	767.0	767.1	767.3	768.1
172.5°	774.5	774.0	773.4	772.8	772.3	772.0	772.0	772.1	772.1	772.1	773.1
175°	781.2	780.5	779.8	779.2	778.5	778.1	778.0	777.8	777.7	777.6	778.5
177.5°	783.3	782.9	782.3	781.8	781.2	781.0	781.0	781.0	781.0	781.0	781.7
180°	782.4	782.4	782.4	782.4	782.4	782.4	782.4	782.4	782.4	782.4	782.4



TEST NUMBER: P332724-930

CATALOG NUMBER: S124DIW-S350D770U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	343.4	343.9	344.4	344.5	344.5	344.5	344.4	344.3
5°	342.5	343.2	343.9	344.2	344.1	344.0	343.9	343.8
7.5°	340.7	341.4	342.3	342.6	342.5	342.4	342.3	342.3
10°	338.8	339.6	340.4	340.7	340.6	340.6	340.5	340.4
12.5°	336.2	337.0	337.6	337.9	337.9	337.9	337.9	337.9
15°	331.5	332.2	333.0	333.4	333.3	333.2	333.1	333.0
17.5°	325.7	326.5	327.3	327.7	327.6	327.5	327.5	327.4
20°	321.2	322.1	322.9	323.4	323.4	323.4	323.4	323.4
22.5°	316.0	316.8	317.7	318.2	318.4	318.5	318.6	318.8
25°	307.9	308.8	309.8	310.3	310.4	310.5	310.5	310.6
27.5°	298.8	299.7	300.6	301.1	301.2	301.3	301.3	301.5
30°	292.4	293.4	294.3	294.9	295.1	295.3	295.5	295.6
32.5°	285.9	287.1	288.1	288.8	288.9	289.1	289.3	289.4
35°	275.7	276.8	278.0	278.8	279.0	279.2	279.6	279.8
37.5°	264.9	266.0	267.3	268.1	268.3	268.6	268.9	269.1
40°	257.3	258.5	259.8	260.7	261.0	261.4	261.7	262.0
42.5°	249.8	251.3	252.7	253.6	253.8	254.0	254.4	254.6
45°	238.3	239.8	241.2	242.1	242.6	243.0	243.4	243.9
47.5°	226.2	227.6	229.2	230.2	230.7	231.2	231.7	232.3
50°	217.6	219.3	221.0	222.2	222.7	223.1	223.7	224.2
52.5°	209.0	210.7	212.4	213.5	214.0	214.5	215.1	215.6
55°	196.0	197.7	199.4	200.6	201.1	201.5	202.1	202.6
57.5°	182.4	184.4	186.5	187.7	188.2	188.7	189.1	189.6
60°	173.0	175.0	176.9	178.2	179.0	179.6	180.3	181.0
62.5°	163.7	165.7	167.6	169.0	169.7	170.3	171.0	171.7
65°	149.4	151.6	153.7	155.1	155.8	156.5	157.2	157.8
67.5°	135.3	137.5	139.7	141.1	141.8	142.4	143.1	143.8
70°	125.4	127.8	130.0	131.5	132.1	132.7	133.3	133.9
72.5°	116.0	118.3	120.5	122.0	122.6	123.3	124.0	124.7
75°	101.7	104.0	106.5	108.0	108.8	109.6	110.4	111.1
77.5°	88.3	90.7	93.2	94.8	95.6	96.4	97.3	98.1
80°	79.7	82.2	84.8	86.4	87.1	87.8	88.5	89.1
82.5°	71.1	73.8	76.4	78.1	78.8	79.6	80.4	81.1
85°	59.2	61.7	64.3	66.0	66.9	67.8	68.6	69.5
87.5°	52.0	54.7	57.3	59.0	59.8	60.7	61.5	62.3
90°	58.1	61.4	64.7	66.9	67.8	68.7	69.7	70.6
92.5°	66.1	69.1	71.9	73.8	74.7	75.5	76.3	77.2
95°	85.0	87.7	90.4	92.2	92.9	93.8	94.5	95.3
97.5°	109.4	112.1	114.9	116.6	117.3	118.1	118.8	119.5
100°	127.1	129.6	132.2	133.9	134.4	135.0	135.7	136.2
102.5°	145.9	148.5	151.2	152.9	153.7	154.4	155.2	156.0
105°	174.6	177.2	179.7	181.5	182.5	183.7	184.7	185.9
107.5°	205.9	208.5	210.9	212.5	213.1	213.7	214.3	214.8
110°	226.9	228.6	230.3	231.7	232.8	233.9	235.0	236.0



TEST NUMBER: P332724-930

CATALOG NUMBER: S124DIW-S350D770U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	249.4	251.2	253.1	254.4	255.2	255.9	256.7	257.5
115°	284.3	286.0	287.8	288.9	289.3	289.8	290.2	290.7
117.5°	317.5	318.9	320.2	321.1	321.5	321.9	322.3	322.7
120°	340.1	341.1	342.2	343.2	344.1	345.1	346.0	347.0
122.5°	363.2	364.4	365.7	366.4	366.6	366.6	366.8	367.0
125°	397.1	398.5	399.9	400.7	401.0	401.2	401.5	401.7
127.5°	429.2	430.5	431.7	432.5	432.9	433.3	433.7	434.0
130°	451.8	453.1	454.4	455.0	455.0	454.9	454.9	454.9
132.5°	473.2	474.4	475.6	476.4	476.7	477.0	477.3	477.6
135°	504.9	506.0	507.1	507.7	507.8	507.9	508.0	508.2
137.5°	535.9	536.8	537.7	538.4	538.9	539.4	539.9	540.5
140°	556.4	557.4	558.4	559.0	559.3	559.6	559.9	560.2
142.5°	576.1	577.0	578.0	578.6	578.9	579.3	579.6	579.9
145°	605.8	606.3	606.7	606.7	606.7	606.7	606.6	606.6
147.5°	633.0	632.9	632.9	632.9	633.1	633.2	633.4	633.5
150°	650.5	650.5	650.5	650.4	650.3	650.1	650.0	649.9
152.5°	667.1	667.4	667.7	667.7	667.4	667.1	666.7	666.3
155°	690.3	690.8	691.4	691.4	690.8	690.3	689.7	689.3
157.5°	710.7	711.1	711.5	711.5	711.0	710.6	710.1	709.6
160°	723.3	723.7	724.1	724.0	723.3	722.6	721.9	721.3
162.5°	734.6	735.3	736.1	736.1	735.4	734.7	734.1	733.4
165°	749.5	750.3	751.1	751.3	750.7	750.2	749.7	749.1
167.5°	762.1	762.9	763.7	763.7	762.9	762.1	761.2	760.3
170°	768.9	769.7	770.5	770.5	769.5	768.6	767.6	766.7
172.5°	774.0	774.9	775.8	775.8	774.8	773.9	772.9	772.0
175°	779.4	780.4	781.3	781.3	780.4	779.4	778.5	777.6
177.5°	782.4	783.2	784.0	783.9	783.0	782.2	781.3	780.5
180°	782.4	782.4	782.4	782.4	782.4	782.4	782.4	782.4

(END OF REPORT)