

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: P332717-927

Luminaire Tested: **S124DIW-S350D470U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332717-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S350D470U927-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2627.6 lumens
Efficiency: N/A
Efficacy: 114.2 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: General Diffuse

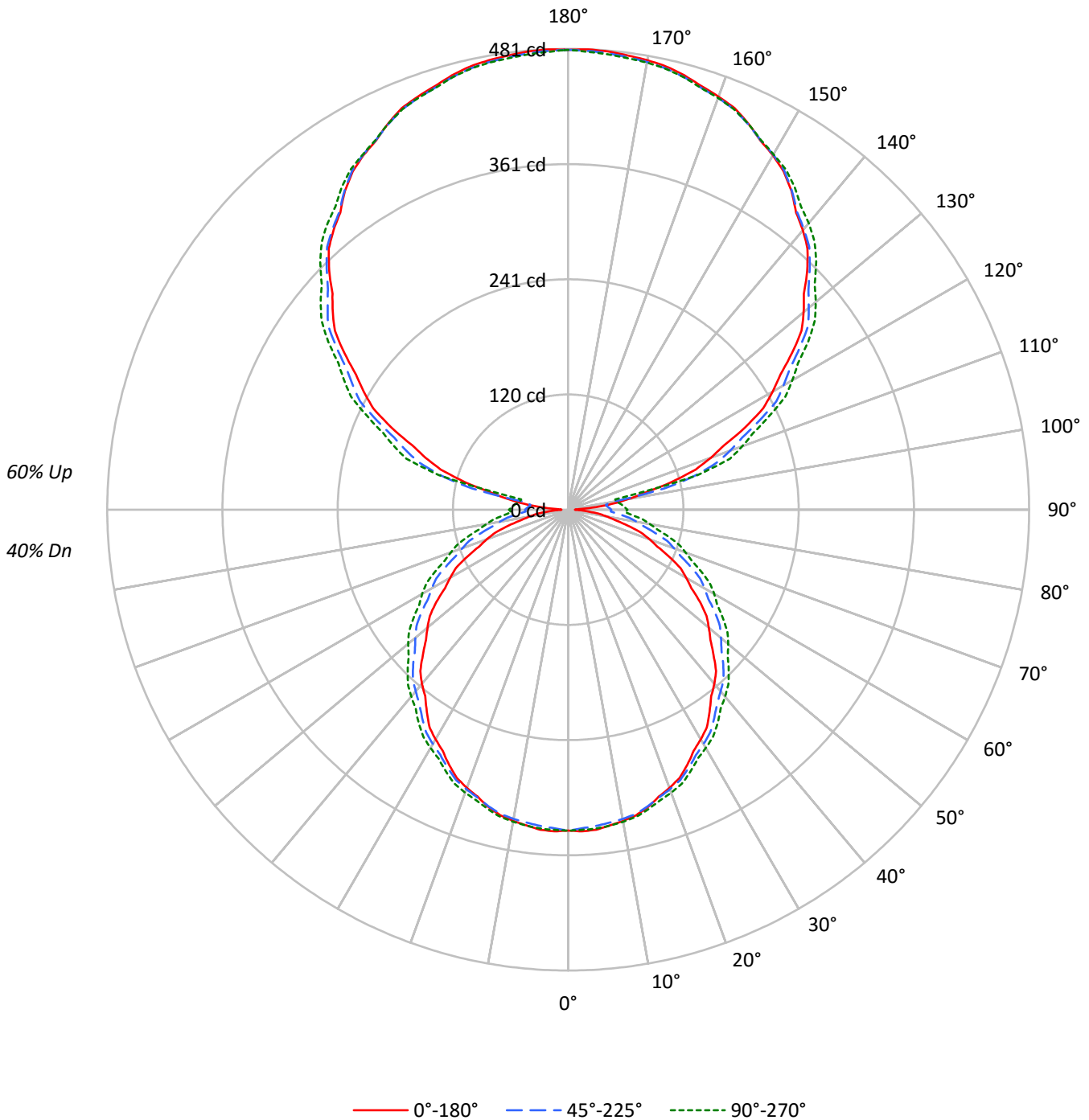
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332717-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332717-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-UDD-D

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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	79	75	67	64	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	31	26
3	78	68	61	55	71	62	56	51	51	46	42	40	37	34	31	28	26	22
4	71	60	52	46	64	55	48	43	45	40	36	36	32	29	27	25	22	18
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	24	22	19	16
6	60	48	40	34	54	44	37	31	36	31	26	29	25	22	22	19	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	20	24	20	17	18	16	13	11
9	48	35	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	32	25	20	40	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2704	2704	2704
5°	2712	2641	2650
10°	2694	2599	2596
15°	2670	2549	2535
20°	2635	2494	2475
25°	2594	2432	2408
30°	2549	2370	2340
35°	2498	2307	2280
40°	2458	2247	2218
45°	2398	2191	2164
50°	2348	2128	2108
55°	2296	2068	2042
60°	2214	1991	1982
65°	2125	1909	1908
70°	2018	1816	1820
75°	1867	1712	1743
80°	1701	1613	1665
85°	1489	1525	1621



TEST NUMBER: P332717-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.7	1.2
10°-20°	90.8	3.5
20°-30°	137.4	5.2
30°-40°	166.2	6.3
40°-50°	175.7	6.7
50°-60°	165.4	6.3
60°-70°	137.2	5.2
70°-80°	96.4	3.7
80°-90°	55.9	2.1
90°-100°	48.8	1.9
100°-110°	128.6	4.9
110°-120°	216.3	8.2
120°-130°	263.3	10.0
130°-140°	275.9	10.5
140°-150°	255.1	9.7
150°-160°	205.1	7.8
160°-170°	132.3	5.0
170°-180°	45.6	1.7
0°-30°	259.9	9.9
0°-40°	426.1	16.2
0°-60°	767.2	29.2
0°-90°	1056.7	40.2
90°-120°	393.7	15.0
90°-150°	1188.0	45.2
90°-180°	1571.0	59.8
0°-180°	2627.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	335	334	331	334	334	32
15°	321	322	321	324	324	90
25°	294	296	297	301	302	135
35°	257	262	266	270	272	161
45°	214	222	229	235	237	166
55°	168	176	187	194	197	150
65°	116	128	141	150	153	115
75°	64	78	94	104	108	69
85°	20	36	52	63	68	21
90°	7	26	45	58	62	5
95°	25	26	41	52	57	29
105°	112	121	137	148	139	117
115°	204	209	220	229	232	201
125°	285	287	295	303	306	255
135°	353	352	356	363	366	272
145°	406	407	407	409	412	254
155°	445	445	444	445	444	205
165°	469	468	468	470	467	133
175°	480	478	478	481	477	46
180°	480	480	480	480	480	



TEST NUMBER: P332717-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	336.0	335.8	335.6	335.4	335.3	334.9	334.4	333.8	333.3	332.7	333.2
5°	335.3	334.9	334.7	334.5	334.2	333.8	333.2	332.6	332.1	331.4	332.2
7.5°	332.4	332.2	332.1	331.9	331.8	331.4	331.0	330.5	330.0	329.5	330.3
10°	329.9	329.9	329.8	329.7	329.6	329.4	329.0	328.5	328.1	327.7	328.4
12.5°	326.7	326.6	326.6	326.6	326.6	326.5	326.1	325.9	325.6	325.3	326.0
15°	321.3	321.5	321.5	321.6	321.7	321.6	321.3	321.1	320.8	320.6	321.3
17.5°	314.1	314.3	314.6	314.8	315.1	315.2	315.1	315.1	315.1	315.0	315.8
20°	309.0	309.2	309.5	309.7	310.0	310.1	310.2	310.3	310.4	310.5	311.3
22.5°	303.2	303.6	303.9	304.2	304.5	304.8	304.9	305.1	305.2	305.4	306.2
25°	294.0	294.5	295.0	295.5	296.0	296.4	296.6	296.8	297.1	297.4	298.3
27.5°	283.6	284.4	285.1	285.8	286.5	287.1	287.5	287.9	288.3	288.7	289.5
30°	276.7	277.4	278.1	278.7	279.4	280.0	280.6	281.1	281.8	282.3	283.3
32.5°	269.3	270.1	270.8	271.6	272.4	273.1	273.8	274.4	275.1	275.8	276.8
35°	257.2	258.3	259.2	260.2	261.3	262.1	263.0	263.8	264.7	265.5	266.6
37.5°	245.2	246.3	247.5	248.6	249.8	250.8	251.9	252.9	254.0	255.0	256.2
40°	237.3	238.4	239.6	240.6	241.7	242.8	244.0	245.2	246.3	247.5	248.7
42.5°	228.4	229.6	230.8	232.0	233.2	234.5	235.9	237.3	238.6	240.0	241.4
45°	214.4	216.0	217.6	219.2	220.8	222.4	223.9	225.5	227.1	228.7	230.1
47.5°	201.2	202.9	204.5	206.1	207.7	209.5	211.3	213.2	215.0	216.8	218.2
50°	191.6	193.5	195.3	197.1	198.9	200.7	202.6	204.5	206.3	208.1	209.8
52.5°	182.0	183.9	185.7	187.5	189.3	191.3	193.4	195.5	197.6	199.7	201.4
55°	168.0	169.8	171.5	173.3	175.0	177.1	179.6	182.1	184.6	187.1	188.8
57.5°	152.3	154.5	156.6	158.8	161.0	163.3	165.8	168.3	170.7	173.3	175.2
60°	142.1	144.3	146.5	148.6	150.8	153.2	156.0	158.8	161.4	164.2	166.1
62.5°	132.2	134.6	137.0	139.3	141.6	144.3	146.9	149.7	152.5	155.3	157.2
65°	116.2	118.9	121.6	124.2	126.9	129.7	132.5	135.3	138.2	141.0	143.1
67.5°	100.8	103.7	106.5	109.4	112.2	115.1	118.2	121.2	124.2	127.2	129.4
70°	90.4	93.2	96.0	98.9	101.7	104.7	107.9	111.1	114.2	117.4	119.6
72.5°	80.2	83.1	86.0	88.9	91.7	94.9	98.2	101.6	105.0	108.4	110.5
75°	64.5	67.6	70.7	73.8	76.8	80.1	83.7	87.1	90.6	94.1	96.5
77.5°	49.9	53.2	56.4	59.7	62.9	66.4	70.0	73.8	77.4	81.0	83.4
80°	40.9	44.2	47.5	50.9	54.2	57.7	61.4	65.0	68.7	72.4	74.9
82.5°	31.8	35.3	38.8	42.3	45.7	49.3	53.0	56.6	60.3	64.0	66.5
85°	19.9	23.4	26.9	30.3	33.9	37.5	41.3	45.0	48.7	52.5	55.0
87.5°	11.3	14.9	18.5	22.0	25.6	29.3	33.0	36.8	40.6	44.4	46.9
90°	7.1	11.2	15.5	19.7	23.9	28.1	32.3	36.6	40.8	45.0	47.9
92.5°	10.2	13.3	16.3	19.3	22.4	26.1	30.3	34.5	38.7	42.9	45.8
95°	24.6	24.6	24.7	24.7	24.8	26.5	30.0	33.5	37.0	40.6	43.3
97.5°	46.3	50.4	54.5	58.5	62.6	61.9	56.3	50.8	45.3	39.8	42.0
100°	63.0	66.6	70.2	73.8	77.4	75.3	67.6	59.8	52.0	44.3	45.2
102.5°	82.0	84.9	87.9	90.8	93.8	96.1	97.8	99.6	101.4	103.1	90.6
105°	111.5	113.6	115.7	117.9	120.0	122.9	126.4	129.8	133.2	136.7	139.6
107.5°	139.4	141.0	142.7	144.3	145.8	148.4	151.9	155.3	158.8	162.2	164.6
110°	158.1	159.5	160.9	162.3	163.7	166.1	169.5	172.9	176.3	179.7	181.8



TEST NUMBER: P332717-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	176.2	177.6	179.1	180.5	182.0	184.3	187.3	190.3	193.3	196.3	198.1
115°	204.0	205.0	206.0	207.0	207.9	209.8	212.4	214.9	217.5	220.1	222.1
117.5°	229.4	230.2	231.0	231.7	232.5	234.2	236.9	239.6	242.2	244.9	246.5
120°	246.4	246.9	247.5	248.1	248.7	250.1	252.5	254.8	257.1	259.4	261.3
122.5°	262.4	262.7	262.9	263.2	263.4	264.7	267.1	269.5	272.0	274.3	276.1
125°	285.1	285.3	285.6	285.8	286.1	287.2	289.1	291.0	292.9	294.9	296.7
127.5°	306.9	306.9	306.9	306.9	306.9	307.8	309.8	311.8	313.8	315.7	317.2
130°	320.7	320.7	320.7	320.7	320.7	321.4	323.0	324.6	326.1	327.7	329.3
132.5°	333.6	333.7	333.7	333.7	333.8	334.5	335.9	337.2	338.7	340.0	341.5
135°	352.6	352.5	352.4	352.4	352.3	352.7	353.6	354.5	355.4	356.3	357.7
137.5°	369.7	369.7	369.6	369.6	369.6	369.9	370.5	371.1	371.8	372.4	373.8
140°	381.0	381.0	381.1	381.2	381.3	381.4	381.7	381.9	382.1	382.4	383.7
142.5°	390.7	390.9	391.3	391.5	391.8	392.0	392.0	392.1	392.1	392.1	393.2
145°	406.1	406.2	406.4	406.5	406.7	406.8	406.8	406.8	406.8	406.8	407.3
147.5°	418.4	418.7	419.1	419.5	419.8	419.9	419.9	419.8	419.7	419.6	419.8
150°	427.2	427.5	427.7	427.9	428.2	428.3	428.2	428.1	428.0	427.9	427.9
152.5°	434.4	434.7	434.9	435.1	435.4	435.4	435.3	435.1	435.0	434.8	435.0
155°	444.8	444.9	445.0	445.0	445.1	445.0	444.8	444.6	444.3	444.1	444.4
157.5°	453.7	453.6	453.5	453.5	453.4	453.3	453.0	452.7	452.5	452.3	452.7
160°	458.8	458.6	458.4	458.1	457.9	457.7	457.6	457.6	457.5	457.4	457.9
162.5°	463.4	463.1	462.8	462.5	462.2	462.0	461.9	461.8	461.8	461.7	462.2
165°	469.2	468.8	468.4	468.0	467.6	467.5	467.5	467.5	467.5	467.5	468.1
167.5°	473.8	473.4	473.0	472.6	472.1	471.9	471.9	471.8	471.8	471.7	472.5
170°	476.4	475.9	475.5	475.0	474.5	474.3	474.4	474.4	474.5	474.6	475.2
172.5°	478.2	477.7	477.2	476.7	476.3	476.0	476.1	476.2	476.3	476.3	477.0
175°	480.0	479.5	479.0	478.6	478.1	477.9	478.0	478.1	478.2	478.2	479.0
177.5°	480.9	480.5	480.0	479.5	479.1	479.0	479.0	479.2	479.3	479.4	479.9
180°	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0



TEST NUMBER: P332717-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	333.7	334.1	334.6	334.8	334.8	334.7	334.6	334.5
5°	332.8	333.4	334.1	334.5	334.4	334.2	334.1	334.1
7.5°	331.1	331.8	332.6	332.9	332.8	332.7	332.6	332.6
10°	329.2	329.9	330.7	331.1	331.0	330.9	330.8	330.7
12.5°	326.7	327.4	328.0	328.4	328.4	328.4	328.4	328.3
15°	322.1	322.8	323.6	323.9	323.8	323.8	323.7	323.6
17.5°	316.5	317.3	318.1	318.4	318.3	318.2	318.2	318.1
20°	312.1	313.0	313.8	314.3	314.3	314.3	314.3	314.3
22.5°	307.0	307.8	308.7	309.2	309.3	309.4	309.6	309.7
25°	299.2	300.1	301.0	301.5	301.6	301.7	301.7	301.8
27.5°	290.3	291.2	292.1	292.6	292.6	292.7	292.8	292.9
30°	284.2	285.1	286.0	286.5	286.7	286.9	287.1	287.2
32.5°	277.8	278.9	280.0	280.6	280.7	280.9	281.1	281.2
35°	267.8	268.9	270.1	270.8	271.1	271.3	271.6	271.9
37.5°	257.4	258.5	259.7	260.5	260.7	260.9	261.3	261.5
40°	250.0	251.2	252.5	253.3	253.6	254.0	254.3	254.6
42.5°	242.7	244.2	245.5	246.4	246.6	246.8	247.2	247.4
45°	231.6	233.0	234.4	235.3	235.8	236.1	236.5	236.9
47.5°	219.8	221.2	222.7	223.6	224.2	224.7	225.1	225.7
50°	211.4	213.1	214.8	215.9	216.3	216.8	217.4	217.9
52.5°	203.0	204.7	206.4	207.5	207.9	208.4	209.0	209.5
55°	190.4	192.1	193.8	194.9	195.4	195.8	196.4	196.9
57.5°	177.2	179.2	181.2	182.4	182.8	183.3	183.8	184.3
60°	168.1	170.0	171.9	173.2	173.9	174.5	175.2	175.9
62.5°	159.1	161.0	162.9	164.2	164.9	165.5	166.2	166.8
65°	145.1	147.3	149.3	150.7	151.4	152.0	152.7	153.4
67.5°	131.5	133.6	135.7	137.1	137.8	138.4	139.0	139.7
70°	121.8	124.1	126.4	127.8	128.3	129.0	129.5	130.1
72.5°	112.7	114.9	117.1	118.5	119.1	119.8	120.5	121.1
75°	98.8	101.1	103.5	105.0	105.8	106.5	107.3	108.0
77.5°	85.8	88.2	90.5	92.1	92.9	93.7	94.5	95.3
80°	77.4	79.9	82.4	84.0	84.6	85.3	86.0	86.6
82.5°	69.1	71.7	74.2	75.9	76.6	77.3	78.1	78.8
85°	57.5	60.0	62.5	64.2	65.0	65.8	66.6	67.5
87.5°	49.4	52.0	54.4	56.1	56.9	57.6	58.4	59.2
90°	50.8	53.7	56.6	58.5	59.3	60.1	60.9	61.8
92.5°	48.6	51.4	54.3	56.0	56.7	57.4	58.1	58.8
95°	45.9	48.7	51.4	53.2	54.0	54.9	55.7	56.6
97.5°	44.2	46.5	48.7	50.2	51.0	51.8	52.6	53.4
100°	46.1	47.0	47.8	48.6	49.3	50.0	50.6	51.3
102.5°	78.2	65.8	53.3	47.5	48.1	48.7	49.4	50.1
105°	142.4	145.1	148.0	148.3	146.1	143.9	141.6	139.4
107.5°	167.1	169.4	171.8	173.5	174.4	175.3	176.2	177.1
110°	183.9	185.9	188.0	189.5	190.4	191.3	192.2	193.1



TEST NUMBER: P332717-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	199.9	201.8	203.6	204.9	206.0	206.9	207.9	208.8
115°	224.1	226.1	228.1	229.3	230.0	230.5	231.1	231.7
117.5°	248.3	249.9	251.7	252.9	253.5	254.1	254.8	255.4
120°	263.1	264.9	266.7	267.9	268.4	268.9	269.4	270.0
122.5°	277.8	279.6	281.4	282.5	282.9	283.4	283.8	284.2
125°	298.5	300.3	302.1	303.3	303.9	304.5	305.1	305.6
127.5°	318.6	320.0	321.5	322.5	323.0	323.5	324.0	324.5
130°	330.9	332.5	334.1	335.1	335.6	336.0	336.6	337.1
132.5°	343.0	344.5	346.0	347.1	347.5	347.9	348.3	348.8
135°	359.3	360.8	362.3	363.4	364.0	364.6	365.4	366.0
137.5°	375.2	376.5	378.0	378.8	379.2	379.5	379.9	380.3
140°	385.0	386.3	387.7	388.6	389.1	389.6	390.1	390.5
142.5°	394.3	395.5	396.6	397.4	397.8	398.1	398.5	398.9
145°	407.9	408.5	409.1	409.6	410.1	410.6	411.1	411.6
147.5°	419.9	420.0	420.2	420.4	420.7	421.0	421.4	421.8
150°	427.9	427.9	427.9	428.0	428.1	428.2	428.3	428.3
152.5°	435.1	435.2	435.4	435.4	435.4	435.3	435.2	435.2
155°	444.7	445.0	445.4	445.4	445.2	445.0	444.7	444.5
157.5°	453.0	453.4	453.8	453.8	453.4	453.0	452.7	452.3
160°	458.4	458.8	459.3	459.3	458.8	458.4	457.9	457.4
162.5°	462.6	463.1	463.6	463.6	463.0	462.5	461.9	461.4
165°	468.7	469.4	470.0	469.9	469.2	468.5	467.8	467.1
167.5°	473.2	473.9	474.6	474.5	473.7	472.9	472.1	471.3
170°	475.9	476.5	477.2	477.1	476.3	475.5	474.7	473.9
172.5°	477.6	478.2	478.9	478.8	477.9	477.1	476.2	475.3
175°	479.7	480.4	481.1	480.9	480.0	479.0	478.1	477.1
177.5°	480.5	480.9	481.5	481.3	480.6	479.8	479.0	478.3
180°	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0

(END OF REPORT)