

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: P332717-935

Luminaire Tested: **S124DIW-S350D470U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332717-935
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-S350D470U935-4F0-1E-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: 2855.9 lumens
Efficiency: N/A
Efficacy: 124.2 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

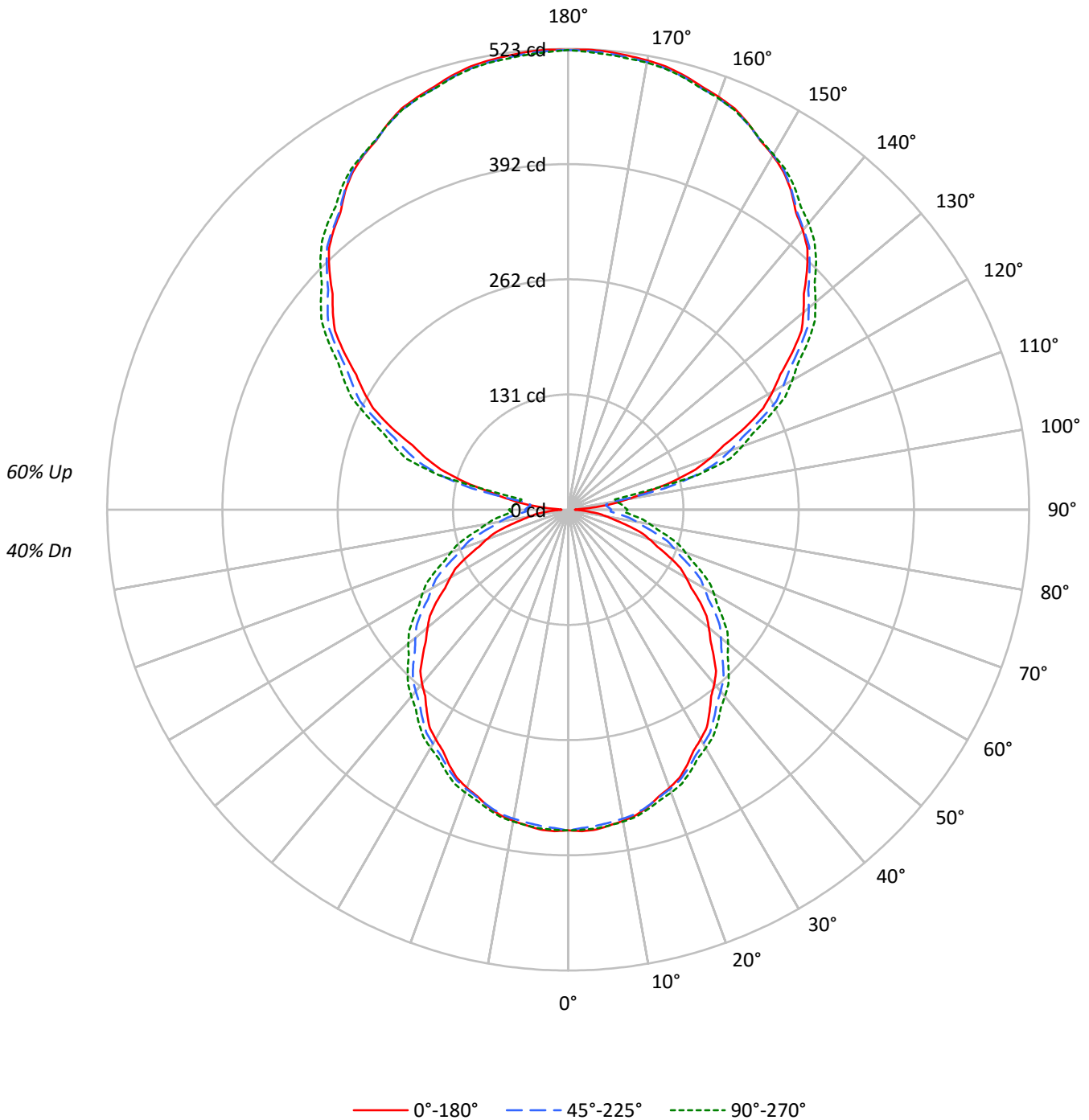
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332717-935

CATALOG NUMBER: S124DIW-S350D470U935-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332717-935

CATALOG NUMBER: S124DIW-S350D470U935-4F0-1E-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°	2938	2938	2938
5°	2948	2871	2880
10°	2929	2825	2823
15°	2902	2770	2755
20°	2863	2710	2690
25°	2819	2643	2617
30°	2770	2576	2543
35°	2716	2507	2478
40°	2672	2442	2410
45°	2607	2382	2352
50°	2553	2313	2291
55°	2496	2248	2220
60°	2408	2164	2153
65°	2309	2076	2073
70°	2192	1973	1979
75°	2029	1861	1894
80°	1846	1754	1809
85°	1616	1659	1762



TEST NUMBER: P332717-935

CATALOG NUMBER: S124DIW-S350D470U935-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.5	1.2
10°-20°	98.7	3.5
20°-30°	149.3	5.2
30°-40°	180.7	6.3
40°-50°	191.0	6.7
50°-60°	179.7	6.3
60°-70°	149.1	5.2
70°-80°	104.7	3.7
80°-90°	60.7	2.1
90°-100°	53.0	1.9
100°-110°	139.8	4.9
110°-120°	235.1	8.2
120°-130°	286.1	10.0
130°-140°	299.9	10.5
140°-150°	277.3	9.7
150°-160°	222.9	7.8
160°-170°	143.8	5.0
170°-180°	49.6	1.7
0°-30°	282.5	9.9
0°-40°	463.2	16.2
0°-60°	833.9	29.2
0°-90°	1148.5	40.2
90°-120°	427.9	15.0
90°-150°	1291.2	45.2
90°-180°	1707.0	59.8
0°-180°	2855.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	364	364	364	364	364	
5°	364	363	360	363	363	35
15°	349	350	348	352	352	98
25°	320	322	323	327	328	147
35°	280	284	288	294	296	175
45°	233	241	249	255	258	180
55°	183	191	203	211	214	163
65°	126	139	153	163	167	125
75°	70	85	102	113	117	75
85°	22	39	57	69	73	23
90°	8	28	49	62	67	5
95°	27	28	44	57	62	32
105°	121	132	149	161	152	127
115°	222	227	239	249	252	218
125°	310	312	320	329	332	277
135°	383	383	387	394	398	295
145°	441	442	442	445	447	276
155°	484	484	483	484	483	223
165°	510	508	508	511	508	144
175°	522	520	520	523	519	50
180°	522	522	522	522	522	



TEST NUMBER: P332717-935

CATALOG NUMBER: S124DIW-S350D470U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	365.2	365.0	364.8	364.5	364.4	363.9	363.4	362.8	362.2	361.6	362.1
5°	364.4	364.0	363.8	363.5	363.3	362.8	362.1	361.5	360.9	360.2	361.0
7.5°	361.3	361.1	360.9	360.8	360.6	360.2	359.7	359.2	358.7	358.2	359.0
10°	358.6	358.5	358.4	358.3	358.3	358.0	357.6	357.1	356.6	356.2	357.0
12.5°	355.1	355.0	355.0	355.0	355.0	354.8	354.5	354.2	353.9	353.6	354.3
15°	349.2	349.4	349.5	349.6	349.7	349.6	349.2	349.0	348.7	348.4	349.2
17.5°	341.4	341.6	341.9	342.2	342.4	342.6	342.5	342.4	342.4	342.3	343.2
20°	335.8	336.0	336.4	336.7	336.9	337.1	337.2	337.3	337.3	337.4	338.4
22.5°	329.6	329.9	330.3	330.6	331.0	331.2	331.4	331.6	331.7	331.9	332.8
25°	319.5	320.0	320.6	321.2	321.7	322.1	322.4	322.6	322.9	323.2	324.2
27.5°	308.2	309.1	309.9	310.6	311.4	312.0	312.5	312.9	313.3	313.7	314.6
30°	300.7	301.5	302.2	302.9	303.7	304.4	305.0	305.6	306.3	306.9	307.9
32.5°	292.7	293.5	294.4	295.2	296.1	296.9	297.6	298.3	299.0	299.7	300.8
35°	279.6	280.7	281.7	282.8	284.0	284.9	285.9	286.7	287.7	288.5	289.8
37.5°	266.5	267.7	269.0	270.2	271.5	272.6	273.8	274.9	276.0	277.2	278.4
40°	258.0	259.2	260.4	261.5	262.7	263.9	265.2	266.5	267.7	269.0	270.4
42.5°	248.2	249.5	250.8	252.2	253.5	254.9	256.4	257.9	259.3	260.8	262.3
45°	233.1	234.8	236.5	238.2	240.0	241.7	243.4	245.1	246.8	248.6	250.1
47.5°	218.7	220.5	222.2	224.0	225.8	227.6	229.6	231.7	233.7	235.7	237.2
50°	208.3	210.3	212.2	214.2	216.2	218.2	220.2	222.2	224.2	226.2	228.0
52.5°	197.9	199.8	201.8	203.8	205.8	207.9	210.2	212.5	214.7	217.1	218.9
55°	182.6	184.5	186.4	188.3	190.2	192.5	195.2	197.9	200.6	203.4	205.2
57.5°	165.6	167.9	170.2	172.6	175.0	177.5	180.2	182.9	185.5	188.3	190.5
60°	154.5	156.8	159.2	161.5	163.8	166.5	169.5	172.5	175.5	178.5	180.6
62.5°	143.7	146.3	148.9	151.4	153.9	156.8	159.7	162.7	165.7	168.8	170.8
65°	126.3	129.2	132.2	135.0	137.9	140.9	144.0	147.1	150.2	153.3	155.5
67.5°	109.6	112.7	115.8	118.9	121.9	125.1	128.5	131.7	135.0	138.3	140.6
70°	98.2	101.3	104.4	107.5	110.6	113.8	117.3	120.7	124.2	127.6	130.0
72.5°	87.1	90.3	93.4	96.6	99.7	103.1	106.8	110.5	114.1	117.8	120.1
75°	70.1	73.4	76.8	80.2	83.5	87.0	90.9	94.7	98.5	102.3	104.9
77.5°	54.2	57.8	61.3	64.8	68.4	72.2	76.1	80.2	84.1	88.1	90.7
80°	44.4	48.0	51.7	55.3	58.9	62.7	66.7	70.7	74.6	78.7	81.4
82.5°	34.6	38.4	42.2	46.0	49.7	53.6	57.6	61.6	65.5	69.6	72.3
85°	21.6	25.4	29.2	33.0	36.9	40.7	44.9	48.9	53.0	57.1	59.8
87.5°	12.3	16.2	20.1	23.9	27.8	31.9	35.9	40.0	44.2	48.2	51.0
90°	7.7	12.2	16.9	21.4	26.0	30.6	35.1	39.8	44.3	48.9	52.1
92.5°	11.1	14.5	17.7	21.0	24.4	28.3	32.9	37.5	42.1	46.7	49.8
95°	26.8	26.8	26.9	26.9	26.9	28.8	32.6	36.4	40.2	44.1	47.0
97.5°	50.4	54.8	59.2	63.6	68.0	67.2	61.2	55.2	49.2	43.2	45.6
100°	68.4	72.4	76.3	80.2	84.1	81.9	73.4	65.0	56.6	48.1	49.1
102.5°	89.1	92.3	95.5	98.7	101.9	104.4	106.3	108.2	110.2	112.1	98.5
105°	121.1	123.5	125.8	128.1	130.4	133.5	137.3	141.0	144.8	148.6	151.7
107.5°	151.5	153.3	155.1	156.8	158.5	161.3	165.1	168.8	172.5	176.3	178.9
110°	171.9	173.3	174.9	176.4	178.0	180.6	184.3	188.0	191.7	195.3	197.6



TEST NUMBER: P332717-935

CATALOG NUMBER: S124DIW-S350D470U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	191.5	193.0	194.7	196.2	197.9	200.3	203.5	206.8	210.1	213.4	215.3
115°	221.7	222.8	223.9	225.0	226.0	228.0	230.8	233.6	236.4	239.3	241.4
117.5°	249.3	250.2	251.1	251.8	252.7	254.6	257.4	260.4	263.2	266.1	267.9
120°	267.8	268.4	269.0	269.7	270.3	271.8	274.4	276.9	279.5	282.0	284.0
122.5°	285.2	285.5	285.8	286.0	286.3	287.7	290.3	292.9	295.6	298.2	300.1
125°	309.9	310.1	310.4	310.6	310.9	312.1	314.2	316.2	318.4	320.5	322.4
127.5°	333.6	333.6	333.6	333.6	333.6	334.6	336.7	338.9	341.0	343.1	344.7
130°	348.5	348.5	348.5	348.5	348.5	349.3	351.0	352.8	354.5	356.2	357.9
132.5°	362.6	362.7	362.7	362.7	362.8	363.6	365.1	366.5	368.1	369.5	371.2
135°	383.2	383.1	383.1	383.0	382.9	383.3	384.3	385.3	386.2	387.3	388.8
137.5°	401.8	401.8	401.7	401.7	401.7	402.0	402.7	403.4	404.1	404.8	406.2
140°	414.1	414.1	414.2	414.3	414.4	414.6	414.8	415.1	415.3	415.6	417.1
142.5°	424.6	424.9	425.2	425.5	425.9	426.0	426.0	426.1	426.1	426.2	427.4
145°	441.3	441.5	441.7	441.9	442.0	442.1	442.1	442.1	442.1	442.1	442.7
147.5°	454.7	455.0	455.5	455.9	456.2	456.4	456.3	456.2	456.2	456.1	456.2
150°	464.3	464.6	464.9	465.1	465.4	465.5	465.4	465.3	465.2	465.1	465.1
152.5°	472.2	472.4	472.7	472.9	473.2	473.2	473.1	472.9	472.8	472.6	472.8
155°	483.5	483.5	483.6	483.7	483.8	483.7	483.5	483.2	482.9	482.7	483.0
157.5°	493.1	493.0	492.9	492.9	492.8	492.7	492.4	492.1	491.8	491.5	492.0
160°	498.7	498.4	498.2	497.9	497.7	497.5	497.4	497.3	497.2	497.1	497.7
162.5°	503.7	503.3	503.0	502.7	502.4	502.1	502.0	502.0	501.9	501.8	502.3
165°	510.0	509.5	509.1	508.7	508.2	508.1	508.1	508.1	508.1	508.1	508.8
167.5°	515.0	514.5	514.1	513.7	513.2	512.9	512.9	512.8	512.8	512.7	513.5
170°	517.8	517.3	516.8	516.3	515.7	515.5	515.6	515.7	515.7	515.8	516.5
172.5°	519.7	519.2	518.7	518.1	517.6	517.4	517.5	517.5	517.6	517.7	518.4
175°	521.7	521.2	520.6	520.1	519.6	519.4	519.5	519.6	519.7	519.8	520.6
177.5°	522.6	522.2	521.7	521.2	520.7	520.6	520.6	520.8	520.9	521.1	521.6
180°	521.7	521.7	521.7	521.7	521.7	521.7	521.7	521.7	521.7	521.7	521.7



TEST NUMBER: P332717-935

CATALOG NUMBER: S124DIW-S350D470U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	362.7	363.2	363.7	363.9	363.9	363.8	363.7	363.6
5°	361.7	362.4	363.2	363.5	363.4	363.3	363.2	363.1
7.5°	359.8	360.6	361.4	361.8	361.7	361.6	361.5	361.4
10°	357.8	358.6	359.5	359.8	359.7	359.6	359.6	359.5
12.5°	355.1	355.9	356.5	356.9	356.9	356.9	356.9	356.8
15°	350.1	350.9	351.7	352.1	352.0	351.9	351.8	351.7
17.5°	344.0	344.8	345.7	346.0	345.9	345.9	345.9	345.8
20°	339.2	340.2	341.0	341.6	341.6	341.6	341.6	341.6
22.5°	333.7	334.6	335.5	336.0	336.2	336.3	336.5	336.7
25°	325.2	326.1	327.2	327.7	327.8	327.9	328.0	328.0
27.5°	315.6	316.5	317.5	318.0	318.1	318.1	318.2	318.4
30°	308.8	309.9	310.8	311.4	311.6	311.9	312.0	312.2
32.5°	302.0	303.2	304.3	305.0	305.1	305.3	305.5	305.7
35°	291.1	292.3	293.6	294.4	294.6	294.9	295.2	295.5
37.5°	279.7	280.9	282.2	283.1	283.4	283.6	284.0	284.2
40°	271.7	273.0	274.4	275.3	275.6	276.0	276.4	276.7
42.5°	263.8	265.4	266.8	267.8	268.0	268.3	268.6	268.9
45°	251.7	253.2	254.8	255.7	256.2	256.7	257.1	257.5
47.5°	238.8	240.4	242.0	243.1	243.7	244.2	244.7	245.3
50°	229.8	231.6	233.4	234.6	235.1	235.7	236.3	236.8
52.5°	220.7	222.5	224.3	225.5	226.0	226.5	227.1	227.6
55°	207.0	208.8	210.6	211.8	212.3	212.8	213.4	214.0
57.5°	192.6	194.8	196.9	198.2	198.7	199.2	199.8	200.3
60°	182.7	184.8	186.8	188.2	189.0	189.7	190.5	191.1
62.5°	172.9	175.0	177.0	178.5	179.2	179.9	180.6	181.3
65°	157.7	160.1	162.3	163.8	164.5	165.2	166.0	166.7
67.5°	142.9	145.3	147.5	149.0	149.7	150.4	151.1	151.9
70°	132.4	134.9	137.3	138.9	139.5	140.2	140.8	141.4
72.5°	122.5	124.9	127.3	128.8	129.5	130.2	131.0	131.6
75°	107.4	109.9	112.4	114.1	114.9	115.7	116.6	117.4
77.5°	93.2	95.8	98.4	100.1	101.0	101.9	102.7	103.6
80°	84.1	86.8	89.5	91.3	92.0	92.7	93.4	94.1
82.5°	75.1	77.9	80.7	82.5	83.3	84.0	84.9	85.7
85°	62.5	65.2	67.9	69.7	70.6	71.5	72.4	73.4
87.5°	53.7	56.5	59.2	61.0	61.8	62.6	63.5	64.3
90°	55.2	58.4	61.5	63.5	64.4	65.3	66.2	67.2
92.5°	52.8	55.9	59.0	60.9	61.6	62.4	63.1	63.9
95°	49.9	53.0	55.9	57.9	58.7	59.7	60.5	61.5
97.5°	48.0	50.5	53.0	54.6	55.4	56.3	57.2	58.0
100°	50.1	51.1	52.0	52.9	53.6	54.3	55.0	55.8
102.5°	85.0	71.5	57.9	51.6	52.3	53.0	53.7	54.4
105°	154.7	157.7	160.8	161.2	158.8	156.4	153.9	151.5
107.5°	181.6	184.2	186.8	188.6	189.5	190.5	191.5	192.5
110°	199.8	202.1	204.3	206.0	207.0	207.9	208.9	209.9



TEST NUMBER: P332717-935

CATALOG NUMBER: S124DIW-S350D470U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	217.3	219.3	221.3	222.7	223.9	224.9	225.9	227.0
115°	243.6	245.7	247.9	249.3	249.9	250.6	251.2	251.8
117.5°	269.8	271.6	273.5	274.8	275.5	276.2	276.9	277.6
120°	285.9	287.9	289.9	291.2	291.7	292.3	292.8	293.4
122.5°	302.0	303.8	305.8	307.0	307.5	308.0	308.4	308.9
125°	324.4	326.4	328.4	329.7	330.3	331.0	331.6	332.2
127.5°	346.3	347.8	349.5	350.5	351.0	351.6	352.1	352.7
130°	359.6	361.4	363.1	364.2	364.7	365.2	365.8	366.4
132.5°	372.8	374.4	376.1	377.2	377.6	378.2	378.6	379.1
135°	390.5	392.1	393.7	394.9	395.6	396.3	397.1	397.8
137.5°	407.8	409.2	410.8	411.7	412.2	412.5	412.9	413.4
140°	418.4	419.9	421.4	422.3	422.9	423.4	424.0	424.5
142.5°	428.6	429.9	431.1	431.9	432.3	432.7	433.1	433.5
145°	443.3	444.0	444.6	445.2	445.7	446.3	446.8	447.4
147.5°	456.3	456.5	456.7	456.9	457.3	457.6	458.1	458.4
150°	465.1	465.1	465.1	465.2	465.3	465.4	465.5	465.5
152.5°	472.9	473.0	473.2	473.2	473.2	473.1	473.0	473.0
155°	483.4	483.7	484.1	484.1	483.9	483.6	483.4	483.1
157.5°	492.4	492.8	493.3	493.3	492.8	492.4	492.0	491.5
160°	498.2	498.7	499.2	499.2	498.7	498.2	497.7	497.1
162.5°	502.8	503.3	503.9	503.9	503.3	502.7	502.0	501.5
165°	509.5	510.1	510.8	510.7	510.0	509.2	508.4	507.6
167.5°	514.3	515.1	515.8	515.7	514.9	514.0	513.2	512.3
170°	517.2	517.9	518.7	518.6	517.6	516.8	515.9	515.1
172.5°	519.1	519.8	520.5	520.4	519.4	518.5	517.5	516.6
175°	521.3	522.1	522.9	522.7	521.7	520.6	519.6	518.6
177.5°	522.2	522.7	523.3	523.1	522.4	521.5	520.6	519.9
180°	521.7	521.7	521.7	521.7	521.7	521.7	521.7	521.7

(END OF REPORT)