

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: P332092-935

Luminaire Tested: **S123DIW-S340D460U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332092-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S340D460U935-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2826.9 lumens
Efficiency: N/A
Efficacy: 122.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

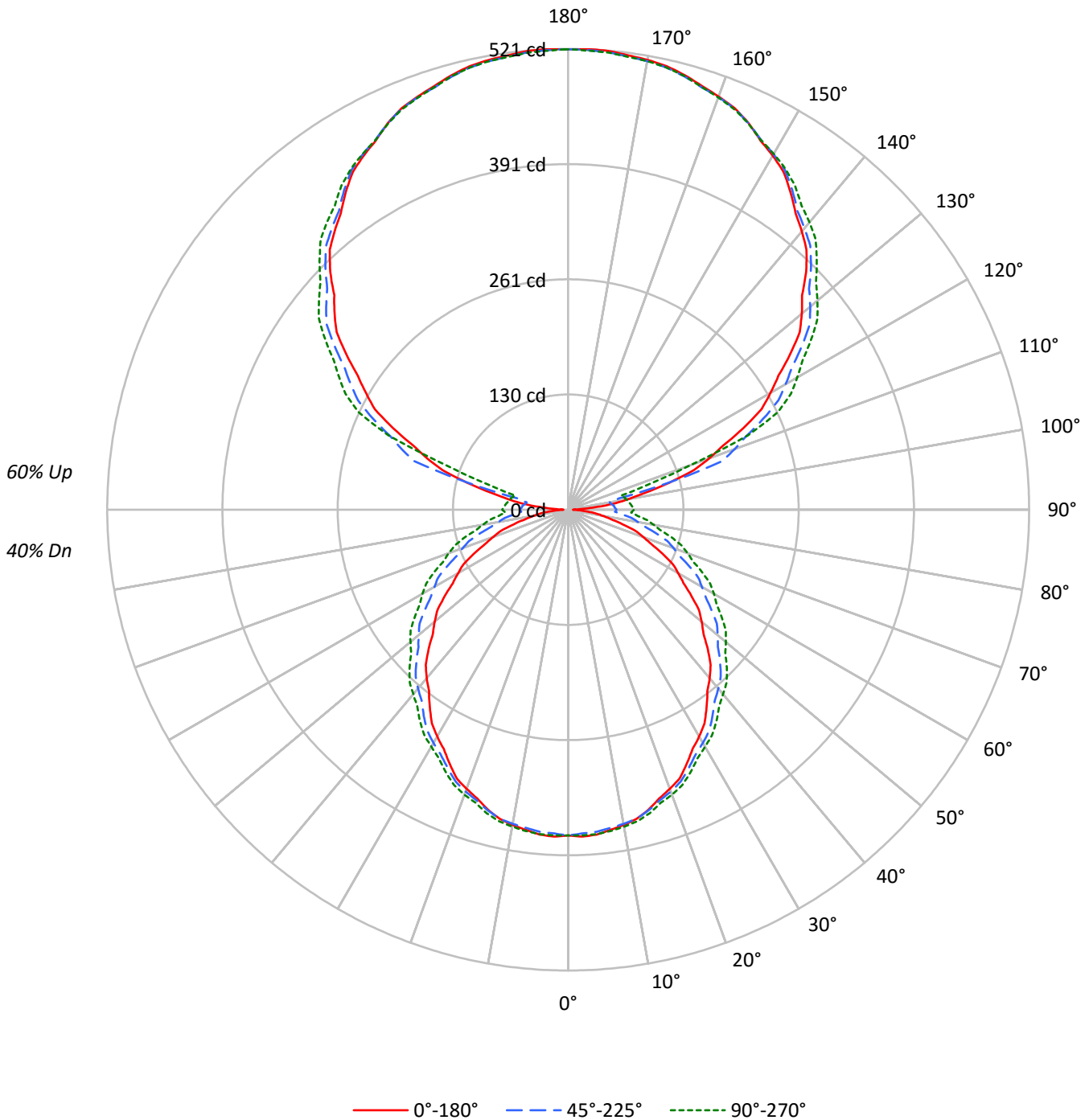
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332092-935

CATALOG NUMBER: S123DIW-S340D460U935-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332092-935

CATALOG NUMBER: S123DIW-S340D460U935-4F0-1E-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	78	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	36	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°	3963	3963	3963
5°	3977	3865	3866
10°	3941	3776	3757
15°	3890	3674	3636
20°	3818	3559	3504
25°	3728	3427	3365
30°	3637	3307	3224
35°	3533	3181	3112
40°	3435	3065	2991
45°	3327	2955	2895
50°	3219	2846	2789
55°	3100	2734	2693
60°	2984	2620	2596
65°	2865	2499	2479
70°	2685	2362	2359
75°	2462	2208	2239
80°	2201	2054	2100
85°	1955	1950	2018



TEST NUMBER: P332092-935

CATALOG NUMBER: S123DIW-S340D460U935-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.9	1.2
10°-20°	99.5	3.5
20°-30°	148.9	5.3
30°-40°	177.8	6.3
40°-50°	186.0	6.6
50°-60°	174.5	6.2
60°-70°	145.8	5.2
70°-80°	104.3	3.7
80°-90°	63.7	2.3
90°-100°	58.0	2.1
100°-110°	118.9	4.2
110°-120°	235.9	8.3
120°-130°	286.9	10.1
130°-140°	299.8	10.6
140°-150°	276.8	9.8
150°-160°	222.4	7.9
160°-170°	143.5	5.1
170°-180°	49.5	1.7
0°-30°	283.3	10.0
0°-40°	461.0	16.3
0°-60°	821.6	29.1
0°-90°	1135.3	40.2
90°-120°	412.7	14.6
90°-150°	1276.2	45.1
90°-180°	1692.0	59.9
0°-180°	2826.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	368	368	368	368	368	
5°	369	368	366	368	368	35
15°	351	352	352	356	355	99
25°	317	321	322	327	327	146
35°	273	279	284	290	292	171
45°	223	233	243	250	254	172
55°	170	183	198	208	212	152
65°	118	133	151	162	167	116
75°	64	83	103	116	121	68
85°	20	40	61	74	79	21
90°	6	29	55	69	75	5
95°	28	29	52	66	71	33
105°	118	131	115	61	62	125
115°	218	226	243	256	262	215
125°	306	310	322	331	335	273
135°	380	382	388	396	397	293
145°	438	440	441	445	447	274
155°	482	482	482	484	482	222
165°	509	508	507	510	508	144
175°	521	519	519	522	519	50
180°	521	521	521	521	521	



TEST NUMBER: P332092-935

CATALOG NUMBER: S123DIW-S340D460U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	369.9	369.7	369.5	369.3	369.0	368.7	368.1	367.5	367.0	366.4	367.0
5°	368.7	368.5	368.3	368.2	368.0	367.6	367.0	366.5	366.0	365.5	366.2
7.5°	365.1	365.2	365.2	365.2	365.2	365.0	364.5	363.9	363.4	362.9	363.8
10°	361.9	362.1	362.2	362.4	362.6	362.5	362.0	361.5	361.1	360.7	361.5
12.5°	358.0	358.3	358.5	358.8	359.0	359.0	358.7	358.3	358.1	357.7	358.6
15°	351.0	351.3	351.5	351.8	352.1	352.2	352.1	352.0	351.9	351.8	352.8
17.5°	342.2	342.8	343.3	343.8	344.3	344.6	344.6	344.5	344.5	344.5	345.3
20°	335.8	336.3	336.8	337.4	337.9	338.3	338.5	338.6	338.8	339.0	339.8
22.5°	329.1	329.6	330.1	330.6	331.2	331.6	331.8	332.1	332.3	332.6	333.6
25°	316.9	317.8	318.7	319.6	320.5	321.1	321.3	321.6	321.8	322.2	323.3
27.5°	304.7	305.7	306.8	307.8	308.8	309.6	310.1	310.7	311.3	311.9	312.9
30°	296.1	297.2	298.4	299.5	300.7	301.6	302.4	303.1	303.8	304.5	305.6
32.5°	286.5	287.7	289.0	290.3	291.6	292.7	293.7	294.6	295.6	296.4	297.6
35°	272.8	274.2	275.7	277.1	278.5	279.8	280.9	282.1	283.3	284.5	285.8
37.5°	258.4	259.9	261.6	263.2	264.8	266.3	267.7	269.1	270.6	272.0	273.5
40°	248.7	250.4	251.9	253.6	255.1	256.8	258.6	260.5	262.2	264.0	265.5
42.5°	238.2	240.1	242.0	244.0	246.0	247.9	249.8	251.6	253.5	255.3	257.0
45°	223.1	225.2	227.3	229.5	231.6	233.8	236.0	238.2	240.5	242.7	244.4
47.5°	207.2	209.7	212.1	214.6	217.0	219.5	222.0	224.5	227.0	229.6	231.5
50°	197.0	199.5	202.0	204.5	207.0	209.6	212.3	215.2	217.9	220.7	222.7
52.5°	186.1	188.7	191.3	194.0	196.7	199.5	202.5	205.6	208.6	211.6	213.8
55°	170.1	173.1	176.0	178.9	181.8	184.9	188.1	191.4	194.6	197.8	200.2
57.5°	154.5	157.6	160.7	163.8	166.8	170.1	173.6	177.1	180.6	184.2	186.6
60°	143.6	146.8	150.1	153.3	156.4	159.9	163.6	167.2	170.8	174.5	177.0
62.5°	133.4	136.6	139.9	143.2	146.5	150.1	153.9	157.8	161.7	165.6	168.0
65°	117.5	121.1	124.5	127.9	131.5	135.2	139.1	143.0	146.9	150.8	153.5
67.5°	101.5	105.2	108.9	112.5	116.2	120.1	124.1	128.1	132.1	136.1	139.0
70°	90.2	94.1	97.9	101.8	105.6	109.7	113.9	118.2	122.5	126.7	129.7
72.5°	80.0	83.9	87.6	91.5	95.3	99.4	103.8	108.3	112.7	117.2	120.1
75°	63.8	68.0	72.2	76.4	80.6	84.9	89.4	93.8	98.2	102.7	105.6
77.5°	49.7	53.9	58.1	62.3	66.6	70.9	75.4	79.9	84.4	88.9	92.0
80°	39.7	44.1	48.5	52.9	57.2	61.7	66.3	70.9	75.6	80.2	83.3
82.5°	31.1	35.5	40.0	44.3	48.8	53.4	58.1	62.8	67.5	72.2	75.3
85°	19.6	24.1	28.6	33.1	37.5	42.1	46.8	51.5	56.2	61.0	64.0
87.5°	10.8	15.3	20.0	24.6	29.2	33.9	38.7	43.4	48.2	53.0	56.1
90°	5.6	10.8	16.1	21.3	26.5	31.9	37.6	43.3	49.0	54.6	58.0
92.5°	12.1	15.8	19.5	23.2	26.9	31.4	36.7	42.0	47.4	52.7	56.1
95°	28.0	28.0	27.9	27.9	27.8	30.5	35.7	41.1	46.4	51.7	55.1
97.5°	51.3	53.0	54.5	56.1	57.6	57.3	55.4	53.3	51.3	49.2	52.6
100°	69.0	73.5	78.1	82.7	87.3	84.9	75.6	66.3	57.0	47.7	51.0
102.5°	89.1	92.9	96.7	100.5	104.3	100.9	90.3	79.6	69.1	58.5	58.8
105°	118.5	121.6	124.7	127.8	130.8	130.4	126.5	122.6	118.7	114.8	102.1
107.5°	149.1	151.7	154.3	156.8	159.4	163.2	168.0	172.8	177.7	182.5	173.7
110°	169.5	171.8	174.1	176.4	178.7	182.1	186.6	191.1	195.6	200.1	199.6



TEST NUMBER: P332092-935

CATALOG NUMBER: S123DIW-S340D460U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	189.3	191.2	193.2	195.1	197.1	200.3	204.6	209.0	213.4	217.7	220.0
115°	218.3	219.8	221.4	223.0	224.5	227.4	231.4	235.3	239.4	243.3	246.3
117.5°	246.6	247.9	249.2	250.5	251.8	254.1	257.5	260.9	264.3	267.7	270.5
120°	263.9	265.1	266.3	267.5	268.7	271.0	274.1	277.3	280.6	283.8	286.5
122.5°	281.8	282.7	283.5	284.4	285.3	287.3	290.4	293.5	296.7	299.8	302.3
125°	306.0	306.7	307.4	308.1	308.8	310.6	313.5	316.4	319.3	322.3	324.3
127.5°	329.8	330.5	331.1	331.7	332.3	333.8	336.4	338.9	341.5	344.1	346.0
130°	344.7	345.3	345.9	346.5	347.1	348.4	350.6	352.8	354.8	357.0	359.0
132.5°	358.6	359.3	360.0	360.7	361.3	362.5	364.2	365.9	367.6	369.3	371.3
135°	380.3	380.7	381.2	381.6	382.0	382.9	384.2	385.5	386.8	388.1	390.0
137.5°	398.7	399.3	399.9	400.5	401.1	401.7	402.5	403.2	404.0	404.8	406.6
140°	410.8	411.3	411.8	412.3	412.8	413.5	414.0	414.5	415.0	415.5	417.2
142.5°	422.2	422.8	423.2	423.6	424.0	424.5	424.7	425.1	425.3	425.7	427.1
145°	438.2	438.8	439.3	439.8	440.3	440.7	440.8	441.0	441.2	441.3	442.3
147.5°	453.0	453.4	453.7	454.2	454.5	454.9	455.0	455.2	455.4	455.6	455.9
150°	462.3	462.5	462.8	463.0	463.3	463.5	463.6	463.8	464.0	464.2	464.3
152.5°	470.6	470.7	470.9	471.0	471.1	471.2	471.3	471.4	471.5	471.7	471.9
155°	482.3	482.2	482.0	481.9	481.7	481.6	481.7	481.8	481.9	482.0	482.4
157.5°	491.5	491.5	491.5	491.5	491.5	491.4	491.3	491.2	491.1	491.0	491.5
160°	497.1	497.0	496.9	496.8	496.7	496.6	496.5	496.5	496.4	496.3	496.8
162.5°	502.3	502.1	501.9	501.7	501.4	501.3	501.2	501.1	501.0	500.9	501.5
165°	508.7	508.4	508.2	507.9	507.6	507.5	507.4	507.3	507.2	507.1	507.8
167.5°	513.7	513.3	513.0	512.6	512.3	512.1	512.1	512.1	512.1	512.1	512.8
170°	516.4	516.1	515.7	515.4	515.1	514.9	514.9	514.9	514.9	514.9	515.6
172.5°	518.2	517.9	517.5	517.0	516.6	516.4	516.5	516.6	516.7	516.7	517.4
175°	520.6	520.2	519.8	519.4	518.9	518.8	518.8	518.9	519.0	519.1	519.7
177.5°	521.2	520.9	520.6	520.2	519.9	519.8	519.9	519.9	520.0	520.0	520.6
180°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6



TEST NUMBER: P332092-935

CATALOG NUMBER: S123DIW-S340D460U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	367.5	368.1	368.7	368.9	368.9	368.8	368.7	368.6
5°	366.9	367.6	368.3	368.7	368.6	368.4	368.3	368.2
7.5°	364.7	365.6	366.4	366.9	366.8	366.6	366.5	366.4
10°	362.5	363.3	364.2	364.5	364.4	364.2	364.0	363.9
12.5°	359.4	360.2	361.0	361.4	361.2	361.0	360.8	360.7
15°	353.6	354.5	355.4	355.8	355.7	355.6	355.5	355.4
17.5°	346.0	346.9	347.7	348.0	347.8	347.8	347.7	347.5
20°	340.6	341.4	342.2	342.7	342.8	342.9	342.9	343.0
22.5°	334.6	335.6	336.7	337.2	337.1	337.0	337.0	336.9
25°	324.4	325.6	326.7	327.4	327.4	327.4	327.4	327.4
27.5°	313.8	314.9	315.9	316.4	316.5	316.6	316.6	316.7
30°	306.6	307.7	308.8	309.3	309.3	309.3	309.3	309.3
32.5°	298.8	299.9	301.0	301.7	302.0	302.1	302.4	302.6
35°	287.1	288.4	289.8	290.7	291.0	291.4	291.7	292.1
37.5°	275.0	276.6	278.1	279.0	279.2	279.6	279.8	280.1
40°	267.0	268.5	270.0	271.0	271.3	271.7	272.1	272.4
42.5°	258.6	260.3	261.9	263.0	263.6	264.0	264.5	265.0
45°	246.1	247.8	249.5	250.7	251.4	252.1	252.9	253.6
47.5°	233.4	235.4	237.3	238.5	239.0	239.6	240.1	240.7
50°	224.7	226.8	228.9	230.2	230.8	231.4	232.0	232.7
52.5°	215.9	218.0	220.2	221.6	222.4	223.2	223.9	224.6
55°	202.6	205.0	207.4	209.0	209.7	210.4	211.1	211.8
57.5°	189.0	191.4	193.8	195.4	196.3	197.2	198.0	198.8
60°	179.5	182.0	184.5	186.2	187.2	188.2	189.2	190.2
62.5°	170.5	173.0	175.5	177.2	178.1	179.0	179.9	180.9
65°	156.2	158.9	161.5	163.3	164.2	165.1	166.0	166.9
67.5°	141.9	144.8	147.7	149.6	150.3	151.1	151.9	152.6
70°	132.5	135.3	138.2	140.1	140.9	141.8	142.8	143.6
72.5°	123.0	125.9	128.8	130.8	131.6	132.5	133.5	134.3
75°	108.6	111.5	114.5	116.5	117.5	118.6	119.7	120.8
77.5°	95.1	98.2	101.3	103.2	104.1	105.0	105.7	106.6
80°	86.3	89.4	92.4	94.3	95.2	96.1	97.0	97.9
82.5°	78.3	81.3	84.4	86.3	87.2	88.1	88.9	89.9
85°	67.1	70.1	73.1	75.1	75.9	76.9	77.7	78.6
87.5°	59.2	62.3	65.3	67.4	68.3	69.2	70.2	71.1
90°	61.4	64.7	68.1	70.3	71.4	72.5	73.5	74.6
92.5°	59.7	63.2	66.7	69.0	69.8	70.8	71.7	72.6
95°	58.5	61.8	65.2	67.3	68.2	69.1	70.0	70.9
97.5°	56.0	59.3	62.7	64.8	65.8	66.8	67.8	68.7
100°	54.2	57.5	60.8	62.9	63.9	64.8	65.8	66.8
102.5°	59.2	59.6	59.9	60.7	61.7	62.8	63.8	64.8
105°	89.4	76.6	63.9	58.0	59.1	60.0	61.0	62.0
107.5°	165.1	156.3	147.5	137.8	127.1	116.4	105.7	95.1
110°	199.1	198.5	198.0	192.0	180.5	168.8	157.3	145.7



TEST NUMBER: P332092-935

CATALOG NUMBER: S123DIW-S340D460U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	222.3	224.6	226.9	227.1	225.3	223.5	221.7	219.9
115°	249.3	252.3	255.3	257.4	258.4	259.4	260.5	261.6
117.5°	273.4	276.1	279.0	280.8	281.5	282.3	283.0	283.8
120°	289.2	292.0	294.7	296.4	297.0	297.6	298.3	298.9
122.5°	304.7	307.2	309.6	311.3	311.9	312.6	313.3	314.0
125°	326.4	328.5	330.5	331.9	332.7	333.5	334.3	335.1
127.5°	348.1	350.2	352.2	353.4	353.9	354.3	354.7	355.2
130°	361.0	363.1	365.2	366.4	366.7	367.0	367.4	367.7
132.5°	373.2	375.2	377.1	378.3	378.7	379.0	379.4	379.8
135°	391.9	393.7	395.6	396.7	396.8	397.0	397.2	397.4
137.5°	408.4	410.2	412.0	413.0	413.4	413.6	413.9	414.1
140°	418.9	420.5	422.2	423.2	423.5	423.8	424.0	424.3
142.5°	428.6	430.1	431.5	432.4	432.6	432.8	433.0	433.3
145°	443.2	444.0	444.9	445.6	445.9	446.3	446.6	446.9
147.5°	456.3	456.7	457.1	457.2	457.2	457.1	457.0	456.9
150°	464.5	464.7	464.9	464.9	464.9	464.8	464.7	464.6
152.5°	472.3	472.5	472.9	472.9	472.5	472.1	471.7	471.4
155°	482.8	483.3	483.7	483.6	483.1	482.6	482.1	481.6
157.5°	492.1	492.6	493.1	493.0	492.3	491.7	491.0	490.3
160°	497.3	497.8	498.3	498.3	497.7	497.1	496.5	495.9
162.5°	502.1	502.7	503.3	503.3	502.7	502.2	501.7	501.2
165°	508.5	509.2	509.9	509.9	509.3	508.8	508.2	507.6
167.5°	513.5	514.1	514.8	514.8	514.1	513.5	512.8	512.1
170°	516.3	516.9	517.6	517.6	516.9	516.3	515.6	514.9
172.5°	518.1	518.8	519.4	519.4	518.7	517.9	517.2	516.4
175°	520.3	520.9	521.5	521.5	520.8	520.1	519.4	518.8
177.5°	521.2	521.7	522.3	522.2	521.5	520.8	520.1	519.4
180°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6

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