

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: P332092-930

Luminaire Tested: **S123DIW-S340D460U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332092-930
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-S340D460U930-4F0-1E-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: 2676.8 lumens
Efficiency: N/A
Efficacy: 116.4 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

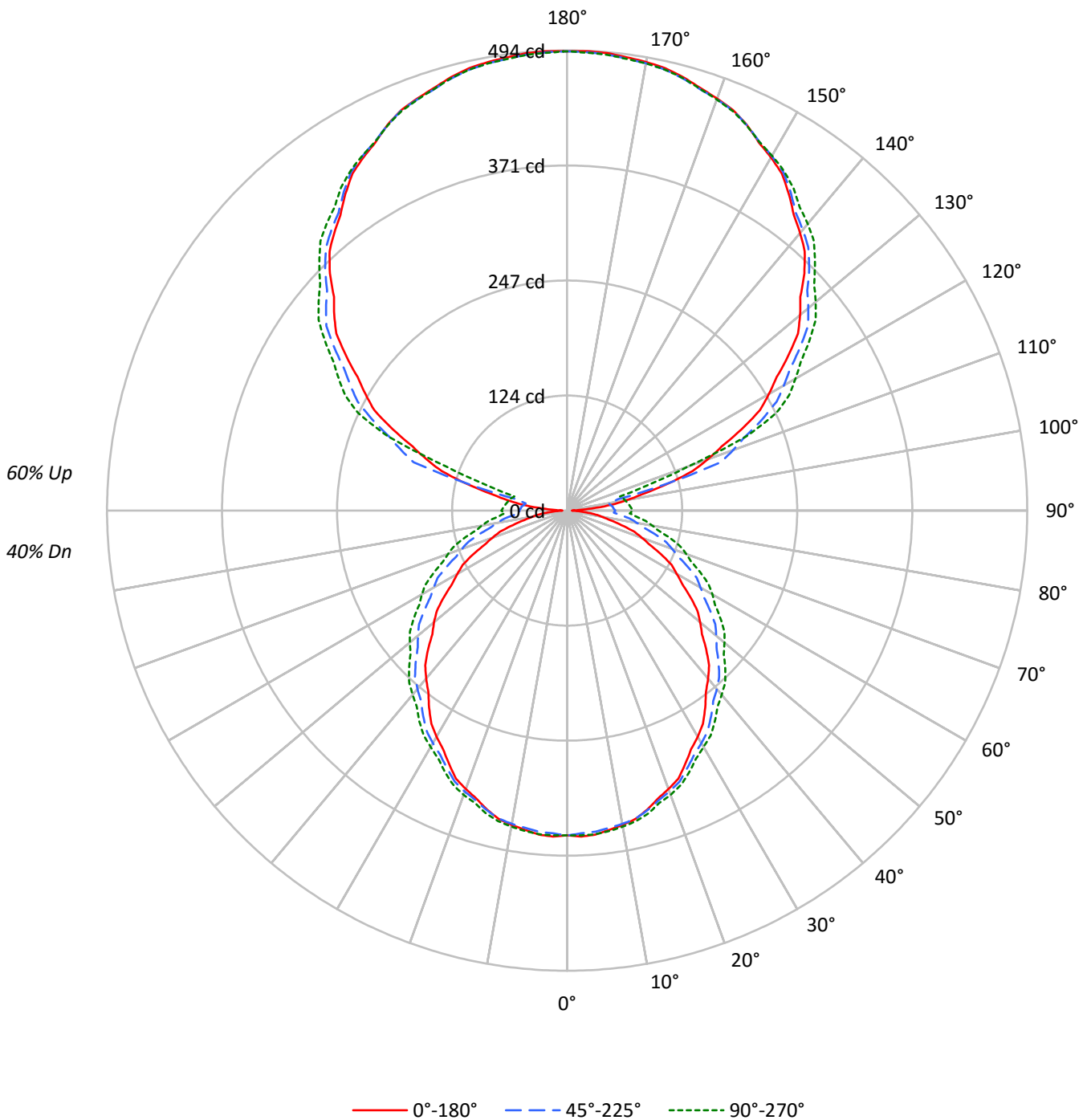
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332092-930

CATALOG NUMBER: S123DIW-S340D460U930-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332092-930

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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	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°	3753	3753	3753
5°	3765	3659	3661
10°	3732	3575	3556
15°	3684	3479	3443
20°	3615	3370	3318
25°	3530	3245	3186
30°	3444	3132	3053
35°	3345	3012	2946
40°	3252	2903	2833
45°	3149	2798	2741
50°	3047	2695	2641
55°	2936	2589	2550
60°	2826	2482	2458
65°	2714	2366	2347
70°	2542	2237	2234
75°	2331	2092	2120
80°	2084	1946	1988
85°	1855	1845	1910



TEST NUMBER: P332092-930

CATALOG NUMBER: S123DIW-S340D460U930-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.1	1.2
10°-20°	94.2	3.5
20°-30°	141.0	5.3
30°-40°	168.3	6.3
40°-50°	176.1	6.6
50°-60°	165.3	6.2
60°-70°	138.0	5.2
70°-80°	98.8	3.7
80°-90°	60.3	2.3
90°-100°	54.9	2.1
100°-110°	112.6	4.2
110°-120°	223.3	8.3
120°-130°	271.7	10.1
130°-140°	283.8	10.6
140°-150°	262.1	9.8
150°-160°	210.6	7.9
160°-170°	135.9	5.1
170°-180°	46.8	1.7
0°-30°	268.3	10.0
0°-40°	436.6	16.3
0°-60°	778.0	29.1
0°-90°	1075.0	40.2
90°-120°	390.8	14.6
90°-150°	1208.4	45.1
90°-180°	1602.0	59.8
0°-180°	2676.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	349	349	349	349	349	
5°	349	348	346	349	349	33
15°	332	333	333	337	337	94
25°	300	304	305	310	310	138
35°	258	264	269	275	276	162
45°	211	220	230	237	240	163
55°	161	174	187	197	201	144
65°	111	126	143	154	158	110
75°	60	78	97	109	114	64
85°	19	38	58	70	74	20
90°	5	28	52	66	71	4
95°	26	28	49	63	67	31
105°	112	124	109	58	59	119
115°	207	214	230	243	248	204
125°	290	293	305	314	317	259
135°	360	362	368	375	376	277
145°	415	417	418	422	423	260
155°	457	456	456	458	456	210
165°	482	481	480	483	481	136
175°	493	491	492	494	491	47
180°	493	493	493	493	493	



TEST NUMBER: P332092-930

CATALOG NUMBER: S123DIW-S340D460U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	350.3	350.1	349.8	349.7	349.4	349.1	348.5	348.0	347.5	346.9	347.5
5°	349.1	348.9	348.8	348.6	348.5	348.1	347.6	347.1	346.6	346.1	346.7
7.5°	345.7	345.8	345.8	345.8	345.8	345.6	345.1	344.6	344.1	343.6	344.5
10°	342.7	342.8	343.0	343.2	343.3	343.2	342.8	342.3	341.9	341.5	342.3
12.5°	339.0	339.2	339.5	339.7	340.0	339.9	339.7	339.3	339.1	338.8	339.6
15°	332.4	332.6	332.9	333.1	333.4	333.5	333.4	333.3	333.2	333.1	334.0
17.5°	324.1	324.6	325.1	325.5	326.0	326.3	326.3	326.2	326.2	326.2	326.9
20°	318.0	318.5	318.9	319.5	320.0	320.3	320.5	320.7	320.8	321.0	321.8
22.5°	311.6	312.1	312.6	313.1	313.6	314.0	314.2	314.5	314.7	315.0	315.9
25°	300.1	300.9	301.8	302.6	303.5	304.0	304.3	304.5	304.8	305.1	306.1
27.5°	288.5	289.5	290.5	291.5	292.4	293.2	293.7	294.2	294.8	295.3	296.3
30°	280.4	281.4	282.6	283.6	284.8	285.6	286.3	287.0	287.6	288.4	289.3
32.5°	271.3	272.5	273.7	274.9	276.1	277.2	278.1	279.0	279.9	280.7	281.8
35°	258.3	259.7	261.1	262.4	263.7	265.0	266.0	267.2	268.2	269.4	270.6
37.5°	244.7	246.1	247.7	249.2	250.7	252.2	253.5	254.9	256.2	257.6	259.0
40°	235.5	237.1	238.6	240.1	241.6	243.2	244.9	246.6	248.3	250.0	251.4
42.5°	225.5	227.4	229.2	231.1	232.9	234.7	236.5	238.2	240.0	241.7	243.4
45°	211.2	213.3	215.2	217.3	219.3	221.4	223.5	225.6	227.7	229.8	231.5
47.5°	196.2	198.5	200.8	203.2	205.5	207.8	210.2	212.6	215.0	217.4	219.2
50°	186.5	188.9	191.3	193.6	196.0	198.4	201.1	203.7	206.4	209.0	210.9
52.5°	176.2	178.7	181.2	183.7	186.2	188.9	191.8	194.7	197.5	200.4	202.4
55°	161.1	163.9	166.6	169.4	172.2	175.1	178.1	181.2	184.3	187.3	189.6
57.5°	146.3	149.2	152.1	155.1	157.9	161.1	164.4	167.7	171.0	174.4	176.7
60°	136.0	139.0	142.1	145.1	148.1	151.4	154.9	158.3	161.8	165.3	167.6
62.5°	126.3	129.4	132.5	135.6	138.7	142.1	145.8	149.4	153.1	156.8	159.1
65°	111.3	114.6	117.9	121.2	124.5	128.0	131.7	135.4	139.1	142.8	145.4
67.5°	96.1	99.6	103.1	106.6	110.1	113.7	117.5	121.3	125.1	128.9	131.6
70°	85.4	89.1	92.7	96.4	100.0	103.9	107.9	111.9	116.0	120.0	122.8
72.5°	75.7	79.4	83.0	86.7	90.3	94.2	98.3	102.6	106.7	111.0	113.7
75°	60.4	64.4	68.3	72.3	76.3	80.4	84.6	88.8	93.0	97.3	100.0
77.5°	47.0	51.0	55.0	59.0	63.0	67.2	71.4	75.7	79.9	84.2	87.2
80°	37.6	41.7	45.9	50.1	54.1	58.5	62.8	67.2	71.6	76.0	78.8
82.5°	29.4	33.6	37.8	42.0	46.2	50.5	55.0	59.4	63.9	68.4	71.3
85°	18.6	22.8	27.1	31.3	35.5	39.9	44.4	48.8	53.2	57.7	60.6
87.5°	10.2	14.5	18.9	23.3	27.6	32.1	36.6	41.1	45.7	50.1	53.1
90°	5.3	10.3	15.2	20.1	25.1	30.2	35.6	41.0	46.4	51.7	55.0
92.5°	11.4	14.9	18.4	21.9	25.4	29.8	34.7	39.8	44.8	49.9	53.2
95°	26.5	26.5	26.4	26.4	26.3	28.9	33.8	38.9	43.9	49.0	52.2
97.5°	48.6	50.1	51.6	53.1	54.5	54.3	52.4	50.5	48.6	46.6	49.8
100°	65.3	69.6	73.9	78.4	82.7	80.4	71.6	62.8	54.0	45.2	48.3
102.5°	84.4	88.0	91.6	95.1	98.7	95.6	85.5	75.4	65.4	55.4	55.7
105°	112.2	115.1	118.1	121.0	123.8	123.5	119.8	116.1	112.4	108.7	96.7
107.5°	141.2	143.7	146.1	148.5	150.9	154.5	159.1	163.6	168.3	172.8	164.5
110°	160.5	162.7	164.9	167.1	169.2	172.4	176.7	181.0	185.2	189.5	189.0



TEST NUMBER: P332092-930

CATALOG NUMBER: S123DIW-S340D460U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	179.3	181.1	183.0	184.7	186.6	189.6	193.7	197.9	202.0	206.2	208.3
115°	206.7	208.1	209.7	211.2	212.6	215.3	219.1	222.8	226.7	230.4	233.3
117.5°	233.5	234.7	235.9	237.2	238.4	240.6	243.9	247.0	250.3	253.5	256.2
120°	249.9	251.0	252.2	253.3	254.5	256.6	259.6	262.6	265.7	268.7	271.3
122.5°	266.8	267.7	268.5	269.3	270.2	272.1	275.0	277.9	281.0	283.9	286.3
125°	289.8	290.4	291.1	291.7	292.4	294.1	296.9	299.6	302.4	305.2	307.1
127.5°	312.3	312.9	313.5	314.1	314.6	316.1	318.5	320.9	323.3	325.8	327.7
130°	326.4	327.0	327.5	328.1	328.6	330.0	332.0	334.0	336.0	338.0	340.0
132.5°	339.6	340.2	340.9	341.5	342.1	343.2	344.9	346.5	348.1	349.7	351.6
135°	360.1	360.5	360.9	361.3	361.7	362.6	363.8	365.0	366.3	367.5	369.3
137.5°	377.6	378.1	378.7	379.3	379.8	380.4	381.2	381.8	382.5	383.3	385.0
140°	389.0	389.5	390.0	390.4	390.9	391.5	392.0	392.5	393.0	393.5	395.0
142.5°	399.8	400.3	400.7	401.1	401.5	401.9	402.2	402.5	402.8	403.1	404.5
145°	415.0	415.5	416.0	416.5	416.9	417.3	417.4	417.6	417.8	417.9	418.8
147.5°	428.9	429.3	429.7	430.1	430.4	430.7	430.9	431.0	431.2	431.4	431.7
150°	437.7	438.0	438.2	438.5	438.7	438.9	439.0	439.2	439.4	439.5	439.7
152.5°	445.6	445.7	445.9	446.0	446.1	446.2	446.3	446.4	446.5	446.6	446.9
155°	456.7	456.6	456.4	456.3	456.2	456.1	456.2	456.2	456.3	456.4	456.8
157.5°	465.5	465.4	465.4	465.4	465.4	465.3	465.2	465.1	465.0	465.0	465.5
160°	470.7	470.6	470.5	470.4	470.3	470.3	470.2	470.1	470.0	469.9	470.4
162.5°	475.6	475.5	475.2	475.1	474.8	474.7	474.6	474.5	474.4	474.3	474.9
165°	481.7	481.4	481.2	480.9	480.7	480.5	480.5	480.4	480.3	480.2	480.9
167.5°	486.4	486.1	485.8	485.4	485.1	484.9	484.9	484.9	484.9	484.9	485.6
170°	489.0	488.7	488.4	488.0	487.7	487.5	487.5	487.5	487.5	487.5	488.2
172.5°	490.7	490.4	490.0	489.6	489.2	489.0	489.1	489.2	489.3	489.3	489.9
175°	493.0	492.6	492.2	491.8	491.4	491.2	491.3	491.4	491.5	491.5	492.1
177.5°	493.6	493.3	492.9	492.6	492.3	492.2	492.3	492.3	492.4	492.4	492.9
180°	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0



TEST NUMBER: P332092-930

CATALOG NUMBER: S123DIW-S340D460U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	348.0	348.5	349.1	349.3	349.3	349.2	349.1	349.0
5°	347.4	348.1	348.8	349.1	349.0	348.9	348.8	348.7
7.5°	345.4	346.2	347.0	347.4	347.3	347.2	347.1	347.0
10°	343.2	344.1	344.9	345.2	345.0	344.9	344.7	344.5
12.5°	340.3	341.1	341.9	342.2	342.0	341.9	341.7	341.5
15°	334.8	335.7	336.6	336.9	336.8	336.7	336.6	336.6
17.5°	327.7	328.5	329.2	329.5	329.4	329.3	329.2	329.1
20°	322.5	323.3	324.1	324.5	324.6	324.7	324.7	324.8
22.5°	316.8	317.8	318.8	319.3	319.2	319.1	319.1	319.0
25°	307.2	308.3	309.4	310.0	310.0	310.0	310.0	310.0
27.5°	297.2	298.2	299.1	299.6	299.7	299.8	299.8	299.9
30°	290.3	291.4	292.4	292.9	292.9	292.9	292.9	292.9
32.5°	282.9	284.0	285.0	285.7	285.9	286.1	286.3	286.5
35°	271.9	273.1	274.4	275.2	275.6	275.9	276.2	276.5
37.5°	260.4	261.9	263.3	264.2	264.4	264.7	265.0	265.2
40°	252.8	254.3	255.7	256.6	256.9	257.3	257.6	258.0
42.5°	244.9	246.5	248.0	249.1	249.6	250.0	250.5	250.9
45°	233.0	234.6	236.3	237.4	238.1	238.7	239.5	240.1
47.5°	221.0	222.9	224.7	225.8	226.3	226.9	227.4	228.0
50°	212.8	214.7	216.7	218.0	218.6	219.2	219.7	220.4
52.5°	204.5	206.4	208.5	209.9	210.6	211.3	212.0	212.7
55°	191.8	194.1	196.4	197.9	198.5	199.3	199.9	200.6
57.5°	179.0	181.2	183.5	185.1	185.9	186.7	187.5	188.3
60°	170.0	172.4	174.7	176.3	177.2	178.2	179.1	180.1
62.5°	161.4	163.8	166.2	167.8	168.7	169.5	170.4	171.3
65°	147.9	150.4	153.0	154.7	155.5	156.4	157.2	158.0
67.5°	134.4	137.1	139.9	141.7	142.4	143.1	143.8	144.5
70°	125.5	128.2	130.9	132.6	133.5	134.3	135.2	136.0
72.5°	116.4	119.2	122.0	123.8	124.7	125.5	126.4	127.2
75°	102.8	105.6	108.4	110.3	111.3	112.3	113.3	114.4
77.5°	90.1	93.0	96.0	97.8	98.6	99.4	100.1	100.9
80°	81.7	84.6	87.5	89.3	90.2	91.0	91.9	92.7
82.5°	74.1	77.0	79.9	81.7	82.6	83.4	84.2	85.1
85°	63.5	66.4	69.2	71.1	71.9	72.8	73.6	74.4
87.5°	56.0	58.9	61.9	63.8	64.7	65.6	66.4	67.3
90°	58.1	61.3	64.5	66.6	67.6	68.6	69.6	70.6
92.5°	56.5	59.8	63.2	65.3	66.1	67.0	67.9	68.7
95°	55.4	58.5	61.7	63.8	64.6	65.4	66.3	67.1
97.5°	53.0	56.2	59.4	61.4	62.3	63.3	64.2	65.1
100°	51.4	54.5	57.6	59.5	60.5	61.4	62.3	63.3
102.5°	56.1	56.4	56.7	57.5	58.5	59.4	60.4	61.4
105°	84.6	72.6	60.5	55.0	55.9	56.8	57.7	58.7
107.5°	156.3	148.0	139.7	130.4	120.3	110.2	100.1	90.0
110°	188.5	188.0	187.5	181.8	170.9	159.9	149.0	137.9



TEST NUMBER: P332092-930

CATALOG NUMBER: S123DIW-S340D460U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	210.5	212.7	214.8	215.1	213.4	211.7	209.9	208.2
115°	236.0	238.9	241.7	243.7	244.7	245.6	246.7	247.7
117.5°	258.9	261.5	264.2	265.9	266.6	267.3	268.0	268.7
120°	273.9	276.5	279.1	280.6	281.3	281.8	282.4	283.0
122.5°	288.5	290.9	293.2	294.7	295.4	296.0	296.7	297.3
125°	309.1	311.0	312.9	314.3	315.0	315.8	316.6	317.3
127.5°	329.6	331.6	333.5	334.7	335.1	335.5	335.9	336.3
130°	341.9	343.8	345.8	346.9	347.2	347.6	347.9	348.2
132.5°	353.4	355.3	357.1	358.2	358.6	358.9	359.3	359.6
135°	371.1	372.8	374.6	375.6	375.8	375.9	376.1	376.3
137.5°	386.7	388.4	390.1	391.1	391.4	391.7	391.9	392.2
140°	396.6	398.2	399.8	400.7	401.0	401.3	401.5	401.8
142.5°	405.9	407.2	408.6	409.4	409.6	409.9	410.0	410.3
145°	419.6	420.4	421.3	421.9	422.2	422.6	422.9	423.2
147.5°	432.1	432.4	432.8	432.9	432.9	432.8	432.8	432.7
150°	439.9	440.0	440.2	440.3	440.2	440.1	440.0	439.9
152.5°	447.2	447.4	447.8	447.8	447.4	447.0	446.7	446.4
155°	457.2	457.6	458.0	458.0	457.5	457.0	456.5	456.1
157.5°	465.9	466.4	466.9	466.8	466.2	465.6	465.0	464.3
160°	470.9	471.4	471.9	471.9	471.3	470.8	470.2	469.6
162.5°	475.5	476.1	476.5	476.6	476.1	475.6	475.1	474.6
165°	481.5	482.2	482.8	482.8	482.2	481.8	481.2	480.6
167.5°	486.2	486.8	487.5	487.5	486.8	486.2	485.6	484.9
170°	488.9	489.5	490.2	490.2	489.5	488.9	488.2	487.5
172.5°	490.6	491.2	491.9	491.9	491.1	490.4	489.8	489.0
175°	492.7	493.3	493.8	493.8	493.2	492.5	491.9	491.2
177.5°	493.5	494.0	494.6	494.5	493.8	493.2	492.5	491.9
180°	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0

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