

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: P332392

Luminaire Tested: **S123RDIW-S340D460U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332392  
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: S123RDIW-S340D460U835-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 460 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3143.7 lumens  
Efficiency: N/A  
Efficacy: 136.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

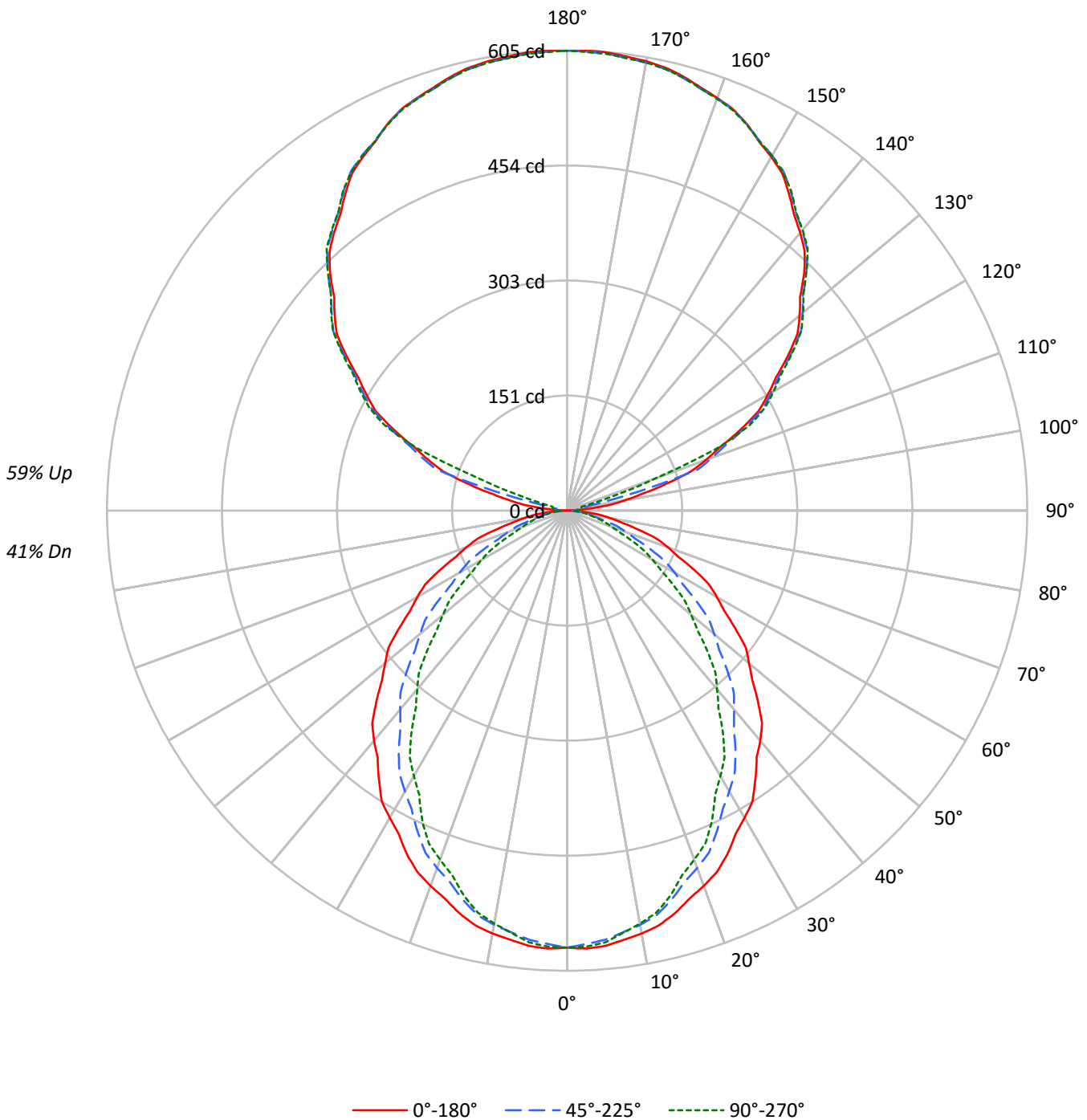
Input Watts (W): 23  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### 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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	48	48	48	41
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	35
2	88	81	75	70	80	74	69	64	61	57	54	49	47	44	38	37	35	30
3	80	71	64	58	73	65	59	54	54	49	46	44	40	38	34	32	30	26
4	73	63	55	49	67	58	51	46	48	43	39	39	35	33	31	28	26	22
5	67	56	48	42	61	52	45	40	43	38	34	35	31	28	28	25	23	20
6	62	50	43	37	57	46	39	34	39	34	30	32	28	25	25	22	20	17
7	57	46	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15
8	53	41	34	29	49	38	31	27	32	27	23	26	23	20	21	18	16	14
9	50	38	30	25	45	35	28	24	29	24	21	24	21	18	20	17	15	13
10	46	35	28	23	42	32	26	21	27	22	19	23	19	16	18	15	13	11

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6184	6184	6184
5°	6207	6122	6158
10°	6172	6045	6025
15°	6107	5904	5841
20°	6015	5727	5593
25°	5922	5529	5352
30°	5797	5299	5009
35°	5670	5070	4696
40°	5552	4799	4308
45°	5398	4532	3958
50°	5228	4228	3565
55°	5054	3883	3200
60°	4895	3511	2799
65°	4689	3110	2397
70°	4428	2609	1936
75°	4051	2054	1822
80°	3608	1822	1674
85°	3051	1606	1494



TEST NUMBER: P332392

CATALOG NUMBER: S123RDIW-S340D460U835-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.0	1.7
10°-20°	150.1	4.8
20°-30°	216.1	6.9
30°-40°	243.5	7.7
40°-50°	232.9	7.4
50°-60°	190.7	6.1
60°-70°	128.7	4.1
70°-80°	64.7	2.1
80°-90°	18.8	0.6
90°-100°	22.0	0.7
100°-110°	104.8	3.3
110°-120°	251.7	8.0
120°-130°	320.5	10.2
130°-140°	342.4	10.9
140°-150°	320.2	10.2
150°-160°	258.3	8.2
160°-170°	166.7	5.3
170°-180°	57.5	1.8
0°-30°	420.2	13.4
0°-40°	663.7	21.1
0°-60°	1087.3	34.6
0°-90°	1299.6	41.3
90°-120°	378.5	12.0
90°-150°	1361.6	43.3
90°-180°	1844.0	58.7
0°-180°	3143.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	574	574	574	574	574	
5°	574	572	567	570	570	54
15°	548	542	530	527	524	154
25°	499	486	466	456	451	229
35°	432	414	386	366	357	270
45°	355	333	298	272	260	273
55°	269	246	207	181	170	241
65°	184	158	122	100	94	182
75°	97	75	49	45	44	104
85°	25	15	13	12	12	28
90°	0	5	11	13	14	2
95°	27	10	14	17	17	34
105°	134	136	98	23	20	142
115°	251	254	258	262	264	248
125°	354	358	359	360	361	316
135°	441	443	445	446	445	339
145°	509	512	513	513	514	318
155°	560	559	560	562	559	258
165°	591	590	589	592	590	167
175°	605	603	603	606	602	58
180°	605	605	605	605	605	



TEST NUMBER: P332392

CATALOG NUMBER: S123RDIW-S340D460U835-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5
2.5°	576.4	576.0	575.7	575.4	575.1	574.4	573.4	572.4	571.4	570.4	571.3
5°	574.5	574.0	573.5	573.0	572.4	571.6	570.3	569.1	567.8	566.6	567.5
7.5°	569.2	568.6	568.1	567.5	567.0	565.9	564.3	562.7	561.0	559.4	559.9
10°	564.7	564.0	563.3	562.6	561.8	560.5	558.7	556.8	554.9	553.1	553.2
12.5°	558.4	557.6	556.8	556.0	555.2	553.6	551.3	549.1	546.8	544.5	544.4
15°	548.0	546.8	545.7	544.5	543.4	541.4	538.5	535.6	532.7	529.8	529.3
17.5°	534.8	533.5	532.2	530.8	529.5	527.0	523.3	519.6	516.0	512.3	511.2
20°	525.1	523.5	521.8	520.2	518.5	515.7	511.8	507.8	503.9	500.0	498.6
22.5°	514.3	512.4	510.5	508.6	506.7	503.7	499.5	495.3	491.1	486.9	485.2
25°	498.6	496.0	493.4	490.8	488.2	484.5	479.8	475.0	470.2	465.5	463.3
27.5°	479.5	476.6	473.7	470.9	468.0	464.0	458.7	453.3	448.0	442.7	439.7
30°	466.4	463.3	460.2	457.1	454.0	449.5	443.7	437.9	432.1	426.3	422.8
32.5°	453.4	449.8	446.3	442.8	439.3	434.5	428.3	422.2	416.1	409.9	406.1
35°	431.5	427.7	424.0	420.3	416.6	411.5	405.1	398.6	392.2	385.8	381.4
37.5°	409.3	405.1	401.0	396.9	392.7	387.2	380.4	373.5	366.7	359.8	354.8
40°	395.1	390.6	386.0	381.5	376.9	370.9	363.6	356.2	348.9	341.5	336.2
42.5°	379.1	374.5	370.0	365.4	360.9	354.8	347.2	339.6	332.0	324.4	318.5
45°	354.6	349.9	345.3	340.6	335.9	329.6	321.7	313.7	305.7	297.7	291.8
47.5°	330.1	325.0	319.8	314.7	309.6	303.1	295.1	287.1	279.2	271.2	264.8
50°	312.2	307.3	302.5	297.6	292.7	286.1	277.7	269.3	260.9	252.5	246.1
52.5°	296.2	290.9	285.6	280.3	275.0	268.2	259.9	251.6	243.3	235.0	228.4
55°	269.3	264.2	259.2	254.1	249.0	242.1	233.3	224.5	215.7	206.9	200.9
57.5°	244.5	239.0	233.5	227.9	222.4	215.2	206.4	197.5	188.7	179.9	174.2
60°	227.4	221.7	216.0	210.3	204.6	197.5	188.9	180.3	171.7	163.1	157.5
62.5°	210.2	204.5	198.8	193.2	187.5	180.3	171.7	163.1	154.5	145.9	140.7
65°	184.1	178.4	172.7	167.0	161.3	154.4	146.3	138.2	130.2	122.1	117.0
67.5°	157.9	152.1	146.3	140.6	134.8	128.1	120.3	112.6	104.8	97.1	93.3
70°	140.7	135.1	129.5	123.9	118.4	111.9	104.7	97.4	90.2	82.9	79.3
72.5°	123.6	118.1	112.6	107.0	101.5	95.5	88.9	82.3	75.7	69.1	66.2
75°	97.4	92.4	87.4	82.5	77.5	72.2	66.5	60.8	55.1	49.4	48.4
77.5°	73.5	69.0	64.5	60.0	55.6	51.5	47.8	44.1	40.5	36.8	36.3
80°	58.2	54.0	49.8	45.5	41.3	38.1	35.9	33.7	31.5	29.4	29.0
82.5°	43.7	40.0	36.4	32.7	29.0	26.7	25.7	24.7	23.7	22.6	22.3
85°	24.7	22.4	20.1	17.9	15.6	14.3	14.0	13.7	13.4	13.0	12.8
87.5°	9.0	8.3	7.6	6.9	6.2	6.0	6.2	6.5	6.7	7.0	7.0
90°	0.4	1.4	2.4	3.4	4.4	5.6	6.9	8.2	9.5	10.8	11.2
92.5°	8.4	8.1	7.8	7.5	7.2	7.6	8.6	9.5	10.5	11.5	12.1
95°	27.4	23.3	19.2	15.1	11.0	9.5	10.6	11.7	12.8	13.9	14.6
97.5°	55.1	53.2	51.4	49.6	47.7	43.2	36.0	28.8	21.7	14.5	15.3
100°	75.9	77.9	79.9	81.9	83.9	77.1	61.6	46.0	30.4	14.8	15.6
102.5°	99.6	101.1	102.5	104.0	105.4	97.6	80.6	63.6	46.6	29.6	27.1
105°	133.9	135.0	136.1	137.2	138.3	134.3	125.3	116.4	107.4	98.4	80.7
107.5°	170.0	170.9	171.8	172.6	173.5	174.7	176.1	177.5	178.9	180.3	167.4
110°	194.1	194.9	195.7	196.5	197.3	198.2	199.3	200.4	201.5	202.6	199.3



TEST NUMBER: P332392

CATALOG NUMBER: S123RDIW-S340D460U835-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	217.1	217.8	218.5	219.2	220.0	220.9	222.0	223.1	224.2	225.3	225.3
115°	251.1	251.7	252.3	252.9	253.5	254.3	255.2	256.1	257.0	257.9	258.9
117.5°	284.1	284.9	285.6	286.3	287.1	287.7	288.1	288.6	289.1	289.5	290.3
120°	304.6	305.5	306.4	307.3	308.2	308.8	309.1	309.4	309.7	310.0	310.8
122.5°	325.5	326.2	326.9	327.7	328.4	329.0	329.4	329.7	330.1	330.5	331.0
125°	354.0	354.8	355.6	356.4	357.2	357.8	358.2	358.6	359.0	359.4	359.6
127.5°	381.7	382.5	383.3	384.1	384.9	385.5	386.0	386.5	387.0	387.5	387.8
130°	399.0	399.8	400.6	401.4	402.2	402.8	403.2	403.6	404.0	404.3	404.7
132.5°	415.5	416.3	417.1	417.9	418.7	419.2	419.6	419.9	420.2	420.5	420.9
135°	440.7	441.3	441.9	442.5	443.1	443.6	444.0	444.4	444.8	445.2	445.5
137.5°	462.3	463.1	463.8	464.6	465.3	465.8	466.1	466.3	466.5	466.7	467.2
140°	476.7	477.3	477.9	478.5	479.1	479.5	479.8	480.1	480.4	480.7	481.1
142.5°	490.0	490.6	491.2	491.8	492.4	492.8	493.1	493.4	493.7	494.0	494.3
145°	508.6	509.3	510.0	510.7	511.4	511.8	512.0	512.2	512.4	512.6	512.8
147.5°	526.1	526.6	527.0	527.5	527.9	528.3	528.5	528.7	528.9	529.1	529.3
150°	536.9	537.2	537.5	537.8	538.1	538.3	538.5	538.7	538.9	539.1	539.3
152.5°	546.6	546.7	546.9	547.0	547.2	547.3	547.4	547.5	547.6	547.8	548.1
155°	560.2	560.0	559.8	559.7	559.5	559.4	559.5	559.6	559.7	559.8	560.3
157.5°	570.9	570.8	570.8	570.8	570.8	570.7	570.6	570.5	570.4	570.3	570.9
160°	577.3	577.2	577.1	577.0	576.9	576.8	576.7	576.6	576.5	576.4	577.0
162.5°	583.4	583.2	582.9	582.7	582.4	582.2	582.1	582.0	581.9	581.8	582.5
165°	590.8	590.5	590.2	589.9	589.6	589.4	589.3	589.2	589.1	589.0	589.8
167.5°	596.6	596.2	595.8	595.4	595.0	594.8	594.8	594.8	594.8	594.8	595.6
170°	599.8	599.4	599.0	598.6	598.2	598.0	598.0	598.0	598.0	598.0	598.8
172.5°	601.9	601.5	601.0	600.5	600.0	599.8	599.9	600.0	600.1	600.1	600.9
175°	604.7	604.2	603.7	603.2	602.7	602.5	602.6	602.7	602.8	602.9	603.6
177.5°	605.4	605.0	604.6	604.2	603.8	603.7	603.8	603.8	603.9	604.0	604.6
180°	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7



TEST NUMBER: P332392

CATALOG NUMBER: S123RDIW-S340D460U835-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5
2.5°	572.2	573.1	574.1	574.4	574.3	574.1	573.9	573.8
5°	568.5	569.4	570.3	570.7	570.5	570.3	570.1	569.9
7.5°	560.5	561.0	561.5	561.6	561.2	560.9	560.5	560.2
10°	553.3	553.4	553.5	553.3	552.8	552.3	551.7	551.2
12.5°	544.4	544.3	544.3	543.9	543.3	542.7	542.1	541.5
15°	528.7	528.2	527.7	527.1	526.4	525.6	524.9	524.2
17.5°	510.1	509.0	507.9	506.8	505.7	504.6	503.6	502.5
20°	497.3	495.9	494.6	493.3	492.0	490.8	489.6	488.3
22.5°	483.6	481.9	480.2	478.8	477.6	476.5	475.3	474.2
25°	461.1	459.0	456.8	455.1	454.0	452.9	451.7	450.6
27.5°	436.7	433.7	430.7	428.3	426.5	424.8	423.1	421.3
30°	419.3	415.8	412.3	409.7	408.0	406.4	404.7	403.0
32.5°	402.2	398.4	394.5	391.7	390.0	388.3	386.5	384.8
35°	376.9	372.4	368.0	364.8	363.0	361.1	359.2	357.4
37.5°	349.7	344.6	339.6	335.9	333.6	331.3	329.0	326.7
40°	330.8	325.4	320.0	316.1	313.7	311.4	309.0	306.6
42.5°	312.6	306.8	300.9	296.9	294.7	292.6	290.5	288.3
45°	285.9	280.0	274.1	269.9	267.5	265.0	262.5	260.0
47.5°	258.3	251.9	245.5	241.2	239.0	236.8	234.5	232.3
50°	239.7	233.3	226.9	222.5	220.1	217.7	215.3	212.9
52.5°	221.7	215.0	208.4	204.0	201.8	199.7	197.6	195.4
55°	194.9	188.9	182.9	178.8	176.8	174.7	172.6	170.5
57.5°	168.5	162.8	157.2	153.4	151.7	149.9	148.2	146.4
60°	151.9	146.3	140.7	137.0	135.3	133.5	131.8	130.0
62.5°	135.4	130.2	124.9	121.3	119.5	117.7	115.8	114.0
65°	111.9	106.9	101.8	98.7	97.5	96.4	95.3	94.1
67.5°	89.5	85.7	81.9	79.4	78.2	77.0	75.8	74.6
70°	75.7	72.1	68.4	66.1	64.9	63.8	62.6	61.5
72.5°	63.2	60.3	57.3	55.6	55.1	54.6	54.2	53.7
75°	47.3	46.3	45.2	44.6	44.4	44.2	44.0	43.8
77.5°	35.7	35.1	34.6	34.2	34.0	33.8	33.6	33.4
80°	28.7	28.4	28.1	27.9	27.6	27.4	27.2	27.0
82.5°	22.0	21.7	21.4	21.2	21.2	21.1	21.1	21.1
85°	12.6	12.4	12.2	12.1	12.1	12.1	12.1	12.1
87.5°	7.0	7.0	7.0	7.0	6.9	6.9	6.8	6.8
90°	11.6	12.0	12.4	12.7	12.9	13.1	13.3	13.5
92.5°	12.8	13.4	14.1	14.4	14.6	14.7	14.8	14.9
95°	15.3	16.0	16.7	17.1	17.1	17.1	17.1	17.1
97.5°	16.1	16.9	17.7	18.1	18.2	18.3	18.4	18.5
100°	16.4	17.2	18.0	18.5	18.6	18.7	18.8	18.9
102.5°	24.6	22.1	19.7	18.5	18.7	18.9	19.0	19.2
105°	63.0	45.4	27.7	19.0	19.2	19.4	19.6	19.8
107.5°	154.4	141.5	128.5	115.4	102.0	88.7	75.4	62.1
110°	196.0	192.7	189.4	180.7	166.4	152.1	137.8	123.6





TEST NUMBER: P332392

CATALOG NUMBER: S123RDIW-S340D460U835-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	225.4	225.4	225.5	224.0	221.0	218.0	215.0	212.0
115°	259.9	260.9	261.9	262.6	263.0	263.4	263.8	264.2
117.5°	291.1	291.9	292.7	293.1	293.2	293.3	293.4	293.5
120°	311.6	312.4	313.2	313.6	313.6	313.6	313.6	313.6
122.5°	331.6	332.2	332.7	333.0	333.1	333.2	333.3	333.4
125°	359.8	360.0	360.2	360.4	360.6	360.8	361.0	361.2
127.5°	388.1	388.4	388.7	388.8	388.6	388.4	388.2	388.0
130°	405.1	405.5	405.9	406.0	405.8	405.6	405.4	405.2
132.5°	421.3	421.7	422.1	422.2	421.9	421.6	421.3	421.1
135°	445.8	446.1	446.4	446.4	446.1	445.8	445.5	445.2
137.5°	467.7	468.1	468.6	468.8	468.6	468.4	468.2	468.0
140°	481.5	481.9	482.3	482.4	482.2	482.0	481.8	481.6
142.5°	494.7	495.0	495.3	495.3	495.0	494.8	494.5	494.2
145°	513.0	513.2	513.4	513.5	513.5	513.5	513.5	513.5
147.5°	529.5	529.7	529.9	529.7	529.3	528.8	528.4	527.9
150°	539.5	539.7	539.9	539.9	539.6	539.3	539.0	538.7
152.5°	548.5	548.8	549.2	549.1	548.7	548.2	547.8	547.3
155°	560.8	561.3	561.8	561.7	561.1	560.5	559.9	559.4
157.5°	571.5	572.1	572.7	572.6	571.8	571.1	570.3	569.5
160°	577.6	578.2	578.8	578.8	578.1	577.4	576.7	576.0
162.5°	583.2	583.9	584.5	584.6	583.9	583.3	582.7	582.1
165°	590.6	591.4	592.2	592.2	591.5	590.9	590.2	589.5
167.5°	596.4	597.1	597.9	597.9	597.1	596.4	595.6	594.8
170°	599.6	600.4	601.2	601.2	600.4	599.6	598.8	598.0
172.5°	601.7	602.5	603.3	603.3	602.4	601.5	600.7	599.8
175°	604.3	605.0	605.7	605.7	604.9	604.1	603.3	602.5
177.5°	605.3	605.9	606.6	606.5	605.7	604.9	604.1	603.3
180°	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7

(END OF REPORT)