

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: FAIL-SAFE

Report Number: G1-1710-337-22

Luminaire Tested: **B95-VE-BLK-LD4-12W-40-OPL-120-EDC1**

Test Date: 11/09/17



**Test Information**

Test Method: LM-79-08  
Report Number: G1-1710-337-22  
Test Lab: INNOVATION CENTER(G1)  
Test Date: 11/09/17  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: B95-VE-BLK-LD4-12W-40-OPL-120-EDC1  
Description: VR 2000 BRICK LED WITH OPAL LENS & VERTICAL EYELID FLAT BLACK  
Light Source: (56) NICHIA 4000K LEDS  
1FS402256M8404  
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER @ 240mA  
OT25UNVDIM1F0240

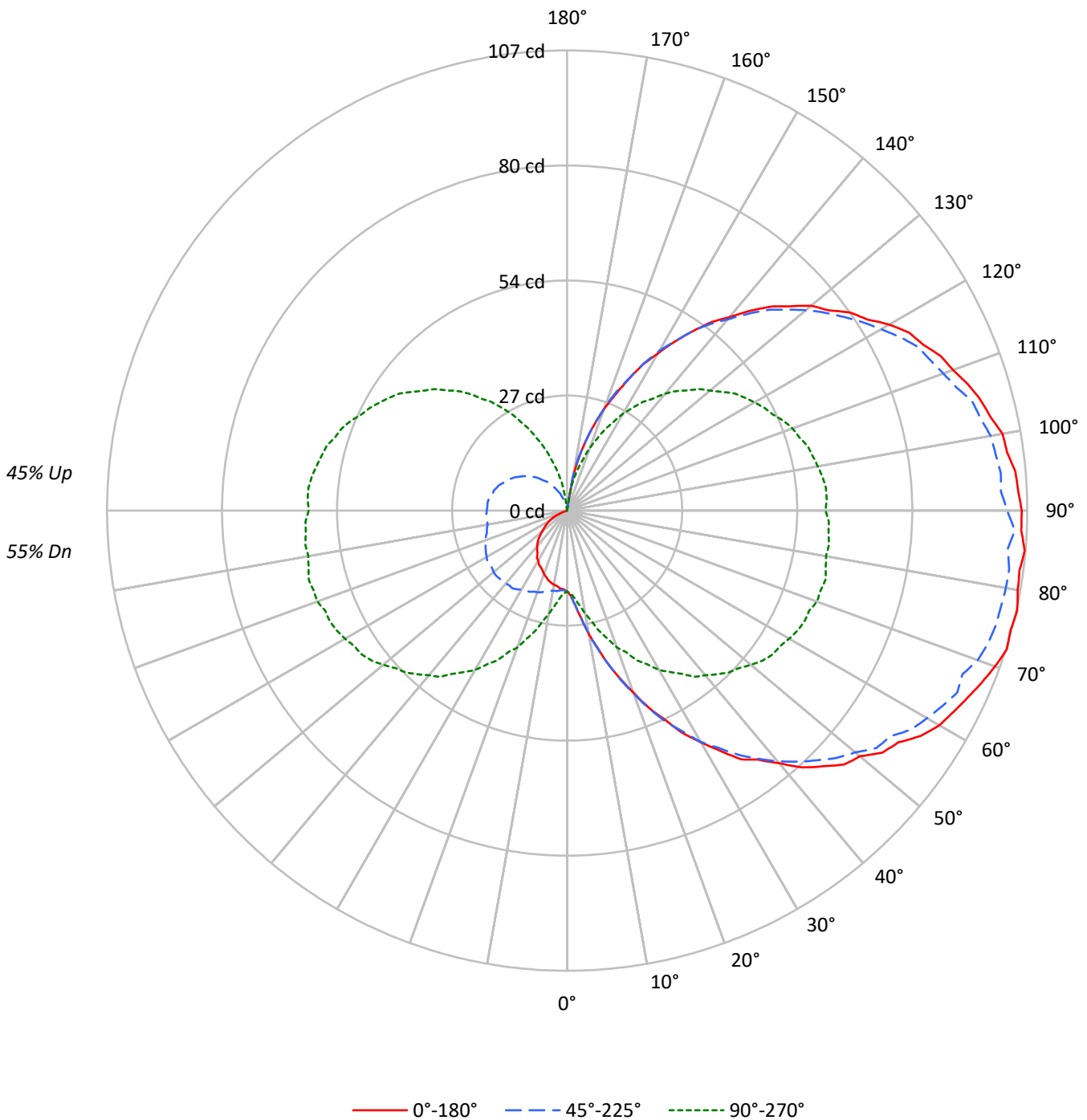
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 599.3 lumens  
Efficiency: N/A  
Efficacy: 51.2 lumens/watt  
Spacing Criteria (0/90/45): 2.86 / 3.09 / 3.05  
Luminous Opening: Rectangular w/ Sides (W: 0.35' x L: 0.29' x H: 0.67')  
CIE Type: General Diffuse  
  
Input Watts (W): 11.7  
Input Voltage (V): 120.0  
Input Current (A<sub>in</sub>): 0.0982  
Voltage Rise (V): NR  
Power Factor: 0.9943  
Total Harmonic Distortion (THDi): 6.61%  
Frequency (hertz): 60  
Stabilization Time: 0.5 HR  
Operation Time: 7.0 HR  
Ambient Temperature (°C): 25.9  
Test Distance: 25 FT

TEST NUMBER: G1-1710-337-22

CATALOG NUMBER: B95-VE-BLK-LD4-12W-40-OPL-120-EDC1

### Luminous Intensity Polar Plot





TEST NUMBER: G1-1710-337-22

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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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	93	87	81	75	86	80	75	70	67	63	59	56	52	50	45	43	40	35
2	83	73	64	57	76	67	59	53	56	50	45	46	41	37	36	33	30	25
3	74	62	53	45	68	57	49	42	48	41	35	39	34	29	31	27	23	19
4	67	54	44	37	61	49	41	34	41	34	29	33	28	23	26	22	18	15
5	61	47	38	30	56	43	35	28	36	29	24	29	24	19	23	19	15	12
6	56	42	32	26	51	38	30	24	32	25	20	26	21	16	21	16	13	10
7	52	37	28	22	47	34	26	20	29	22	17	23	18	14	18	14	11	8
8	48	34	25	19	43	31	23	17	26	19	15	21	16	12	17	13	9	7
9	44	31	22	16	40	28	20	15	24	17	13	19	14	10	15	11	8	6
10	41	28	20	14	38	26	18	13	22	16	11	18	13	9	14	10	7	5

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

	0°	90°	180°
0°	1959	1959	1959
5°	1935	1841	1586
10°	2202	1930	1320
15°	2475	2087	1124
20°	2724	2231	950
25°	2983	2351	807
30°	3226	2468	695
35°	3454	2541	587
40°	3576	2637	503
45°	3772	2720	422
50°	3870	2789	331
55°	4005	2872	260
60°	4198	2915	193
65°	4295	2981	125
70°	4432	3051	38
75°	4512	3120	0
80°	4573	3140	0
85°	4707	3239	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	2.1	0.3
10°-20°	8.1	1.3
20°-30°	17.1	2.9
30°-40°	28.0	4.7
40°-50°	39.4	6.6
50°-60°	49.7	8.3
60°-70°	57.7	9.6
70°-80°	62.4	10.4
80°-90°	64.2	10.7
90°-100°	62.9	10.5
100°-110°	58.3	9.7
110°-120°	50.4	8.4
120°-130°	40.1	6.7
130°-140°	28.9	4.8
140°-150°	18.1	3.0
150°-160°	9.0	1.5
160°-170°	2.8	0.5
170°-180°	0.1	0.0
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0°-30°	27.2	4.5
0°-40°	55.3	9.2
0°-60°	144.4	24.1
0°-90°	328.6	54.8
90°-120°	171.6	28.6
90°-150°	258.7	43.2
90°-180°	271.0	45.2
0°-180°	599.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	19	19	19	19	19	
5°	22	22	20	19	18	2
15°	37	37	29	20	17	11
25°	54	54	38	21	14	25
35°	71	69	46	22	12	44
45°	84	82	53	22	9	65
55°	94	92	58	22	6	85
65°	103	100	61	21	3	102
75°	107	103	62	19	0	113
85°	107	103	61	19	0	87
90°	106	102	60	19	0	58
95°	105	101	60	19	0	85
105°	100	98	58	18	0	105
115°	91	90	53	16	0	91
125°	80	78	48	14	0	72
135°	67	66	40	11	0	52
145°	51	51	31	8	0	32
155°	34	34	21	5	0	16
165°	17	17	10	2	0	5
175°	0	0	0	0	0	0
180°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8
2.5°	19.8	19.9	20.0	19.9	20.0	20.1	19.9	20.0	19.7	19.5	19.5
5°	22.2	22.3	22.1	22.4	22.4	22.5	22.2	22.1	21.8	21.4	20.8
7.5°	25.3	25.4	25.3	25.4	25.3	25.7	25.4	24.9	24.4	23.4	22.7
10°	29.2	29.0	29.2	28.9	29.4	29.4	29.1	28.5	27.2	26.0	25.3
12.5°	32.7	33.1	33.0	32.9	33.0	33.3	32.9	31.7	30.6	29.0	27.2
15°	37.0	36.9	37.3	36.9	37.3	37.2	37.0	35.3	34.1	31.9	29.9
17.5°	41.0	41.1	41.1	40.9	41.4	41.6	41.2	39.6	37.6	35.0	32.7
20°	45.0	45.8	45.7	45.6	45.9	46.5	45.3	43.5	41.1	38.0	35.0
22.5°	49.6	50.0	49.4	49.8	49.8	50.2	49.8	47.8	44.6	41.2	37.6
25°	53.6	53.8	53.9	54.1	54.6	54.7	54.1	51.4	48.1	44.2	40.0
27.5°	58.4	58.1	57.8	58.0	58.1	59.0	57.7	55.0	51.4	47.0	42.2
30°	62.2	62.6	62.3	62.0	62.4	62.9	62.1	58.9	54.7	50.1	44.6
32.5°	66.2	66.1	66.5	65.4	66.2	67.0	65.4	62.4	58.3	52.8	46.8
35°	70.6	70.2	70.3	69.4	69.9	70.1	69.3	65.8	61.1	54.8	48.9
37.5°	73.0	73.8	73.6	72.6	73.5	74.1	72.7	69.1	64.0	57.6	51.1
40°	76.7	76.9	77.4	76.4	76.7	78.1	76.1	72.8	67.2	60.1	52.3
42.5°	81.0	80.8	80.7	79.8	79.2	80.6	79.2	76.0	69.6	61.9	54.4
45°	84.1	84.4	83.8	82.5	83.4	84.1	82.1	78.4	72.3	64.3	56.6
47.5°	87.4	87.3	86.6	85.3	85.2	87.1	85.1	80.6	74.3	66.1	57.6
50°	88.9	90.1	89.6	88.3	88.3	89.4	87.5	83.3	76.7	68.7	59.5
52.5°	92.4	91.9	92.5	90.2	90.2	92.0	90.7	85.9	78.4	70.2	59.9
55°	94.0	95.1	94.1	92.7	93.5	94.5	91.6	87.6	80.8	71.3	61.8
57.5°	97.5	97.2	96.6	95.6	94.7	96.8	94.8	89.8	82.4	72.8	63.0
60°	99.9	98.9	99.1	97.1	97.0	98.1	96.6	90.7	84.1	74.6	63.7
62.5°	101.3	101.1	101.8	98.8	99.0	99.7	98.4	93.3	85.0	75.1	64.3
65°	102.8	102.5	102.8	100.7	100.4	101.7	100.1	94.7	87.3	75.6	65.3
67.5°	104.4	103.5	103.7	101.7	101.3	102.7	99.5	95.6	87.1	77.1	65.3
70°	105.9	105.7	105.2	103.1	101.8	104.1	101.6	96.7	88.3	78.2	65.9
72.5°	107.2	106.4	105.5	103.8	103.5	105.3	102.6	97.4	89.0	77.6	66.5
75°	106.8	106.8	106.4	104.9	104.1	105.3	103.2	97.7	89.8	78.3	66.2
77.5°	107.2	106.5	107.3	104.5	103.7	105.4	103.3	98.5	89.4	78.2	66.3
80°	106.4	108.1	106.4	104.3	103.5	105.8	103.6	98.5	89.9	78.0	66.4
82.5°	106.1	107.6	107.6	104.3	103.5	105.5	103.7	97.9	89.1	78.0	65.7
85°	106.8	106.6	107.1	104.9	104.2	105.6	102.8	98.0	89.1	78.4	65.5
87.5°	105.7	107.0	106.4	104.3	103.9	105.4	104.2	97.9	89.0	78.2	65.3
90°	105.7	106.1	105.6	102.8	102.1	104.3	102.3	97.0	89.0	77.7	65.6
92.5°	105.0	106.2	105.1	102.1	102.4	103.5	101.0	96.8	88.3	77.4	64.9
95°	104.6	105.2	103.8	101.5	101.1	103.1	101.2	96.2	86.9	76.4	64.6
97.5°	103.2	103.2	103.2	101.0	100.2	102.5	100.5	95.2	87.3	76.1	64.5
100°	102.8	103.3	102.9	100.3	99.9	101.7	100.0	94.9	86.2	75.3	63.1
102.5°	100.8	100.0	101.0	98.9	97.6	100.0	98.5	93.0	85.1	74.1	62.4
105°	99.5	100.6	99.8	97.7	96.7	98.9	97.6	92.0	84.2	73.5	62.0
107.5°	97.7	98.5	98.1	95.7	95.4	97.0	95.0	90.6	82.5	72.0	60.5
110°	95.5	96.4	95.7	93.6	93.8	95.4	93.1	88.1	80.7	70.6	59.7



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CATALOG NUMBER: B95-VE-BLK-LD4-12W-40-OPL-120-EDC1

**CANDELA DISTRIBUTION (continued):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
112.5°	94.0	94.1	93.6	92.1	91.5	92.8	91.4	86.9	79.4	69.2	58.5
115°	91.3	91.5	91.3	89.6	89.5	90.7	90.0	85.2	76.6	67.2	57.4
117.5°	89.6	88.5	89.0	87.1	87.3	88.6	87.3	82.6	75.2	66.2	55.5
120°	86.5	86.8	86.5	84.3	84.8	86.2	84.3	80.4	73.1	63.6	54.4
122.5°	82.7	83.8	83.5	81.8	81.3	82.9	81.5	77.7	70.6	61.8	52.0
125°	80.3	81.0	80.1	78.3	78.8	80.5	78.5	74.3	68.2	59.5	50.2
127.5°	76.5	77.3	76.9	75.6	75.9	77.7	75.6	72.2	65.7	57.2	48.6
130°	74.1	73.9	73.0	72.5	72.7	73.8	72.5	68.5	62.2	54.4	46.5
132.5°	70.3	69.8	70.3	69.4	69.7	70.1	69.1	65.4	59.8	52.4	44.6
135°	67.1	66.4	66.2	66.0	65.6	67.0	66.0	62.3	56.5	49.3	42.2
137.5°	63.0	62.9	62.4	62.2	62.3	63.2	62.0	59.3	53.9	47.0	40.2
140°	58.7	59.1	59.1	57.8	58.9	59.4	58.0	55.3	50.3	44.4	37.8
142.5°	55.3	54.8	54.7	54.4	54.9	55.8	54.7	51.3	46.8	41.3	35.3
145°	50.9	51.1	50.8	50.9	50.6	51.3	50.9	48.1	43.6	38.4	33.1
147.5°	46.6	46.9	46.6	46.3	47.1	47.8	46.7	44.1	40.3	35.3	30.4
150°	42.2	42.6	42.0	42.3	42.8	43.6	42.9	40.3	36.5	32.2	27.5
152.5°	38.3	38.0	38.5	37.7	38.5	39.4	38.5	36.3	33.1	29.1	25.1
155°	33.5	33.8	33.5	33.7	34.4	34.6	33.8	32.3	29.1	25.9	22.0
157.5°	29.1	29.3	29.3	29.4	29.8	30.6	29.8	28.2	25.5	22.4	19.4
160°	25.1	25.2	25.1	25.1	25.6	25.9	25.4	24.1	21.9	19.5	16.7
162.5°	20.8	20.6	20.6	20.7	21.1	21.8	21.1	19.8	18.1	16.1	13.8
165°	16.9	16.5	16.4	16.5	16.9	17.3	16.9	16.1	14.8	12.8	11.1
167.5°	12.5	12.7	12.7	12.7	13.1	13.4	13.1	12.4	11.4	10.1	8.5
170°	8.4	8.5	8.4	8.5	9.1	9.2	9.0	8.6	7.8	6.9	6.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: B95-VE-BLK-LD4-12W-40-OPL-120-EDC1

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8
2.5°	19.3	19.2	19.0	18.8	18.8	18.5	18.5	18.5	18.5	18.4	18.3
5°	20.5	20.6	20.1	19.6	19.2	18.6	18.5	18.3	18.1	18.3	18.2
7.5°	22.3	21.9	21.3	20.4	19.6	18.9	18.3	18.0	17.8	17.7	17.7
10°	24.3	23.9	22.9	21.7	20.4	18.9	18.2	17.6	17.6	17.4	17.5
12.5°	26.4	26.0	24.6	23.0	21.2	19.2	17.9	17.2	17.1	16.9	17.2
15°	29.1	27.7	26.2	23.9	21.9	19.5	18.0	16.8	16.8	16.7	16.8
17.5°	31.2	30.3	28.0	25.5	22.5	19.9	17.5	16.5	16.1	16.2	16.2
20°	33.9	32.5	30.1	26.9	23.6	20.2	17.6	15.9	15.9	15.9	15.7
22.5°	35.6	34.8	31.6	28.3	24.4	20.4	17.3	15.4	15.2	15.2	15.0
25°	38.4	36.6	33.5	29.7	25.2	20.8	17.0	14.9	14.7	14.6	14.5
27.5°	40.3	38.8	35.2	30.8	25.7	20.9	16.6	14.2	14.2	14.1	14.2
30°	42.8	41.0	36.6	31.9	26.8	21.2	16.5	13.8	13.6	13.5	13.4
32.5°	44.5	42.6	38.5	33.4	27.7	21.7	16.3	13.3	13.0	13.1	13.1
35°	46.3	44.3	39.8	34.4	28.2	22.1	15.9	12.4	12.3	12.1	12.0
37.5°	48.7	46.2	41.4	35.4	29.0	22.0	15.7	11.9	11.4	11.6	11.5
40°	50.0	47.5	42.4	36.3	29.4	22.1	15.3	11.2	10.8	10.9	10.8
42.5°	51.6	49.3	43.7	37.3	29.8	22.3	14.7	10.4	10.0	10.0	10.2
45°	53.2	50.4	45.0	38.0	30.6	22.3	14.6	9.8	9.5	9.3	9.4
47.5°	54.2	52.0	46.1	38.8	30.9	22.4	14.0	8.9	8.8	8.6	8.5
50°	55.8	53.4	47.1	39.5	31.3	22.3	13.5	8.2	7.8	7.6	7.6
52.5°	57.3	54.4	47.8	40.2	31.4	22.0	13.1	7.5	7.0	6.9	6.8
55°	58.3	55.2	48.3	40.3	31.6	21.8	12.4	6.4	6.0	6.1	6.1
57.5°	58.7	55.9	48.8	41.2	31.8	22.0	12.0	5.6	5.4	5.3	5.4
60°	59.6	57.2	49.7	41.3	32.0	21.6	11.3	4.6	4.4	4.5	4.6
62.5°	60.4	57.1	50.3	41.7	31.9	21.3	10.8	3.9	3.5	3.8	3.9
65°	60.9	57.9	50.6	41.7	31.9	20.9	9.9	2.9	2.6	2.9	3.0
67.5°	60.9	58.0	50.6	41.8	31.7	20.5	9.1	1.8	1.6	1.9	1.9
70°	61.8	58.4	50.9	41.9	31.7	20.3	8.7	0.9	0.8	0.9	0.9
72.5°	61.8	58.4	50.8	41.8	31.3	19.8	8.2	0.4	0.0	0.1	0.0
75°	62.2	58.3	50.5	41.1	31.0	19.3	7.5	0.0	0.0	0.0	0.0
77.5°	61.6	58.3	50.7	41.3	30.5	19.1	7.2	0.0	0.0	0.0	0.0
80°	61.1	58.1	50.3	41.0	30.5	18.8	7.1	0.0	0.0	0.0	0.0
82.5°	61.4	58.1	50.2	41.0	30.1	18.7	7.0	0.0	0.0	0.0	0.0
85°	61.0	58.1	50.2	40.7	30.3	18.7	7.3	0.0	0.0	0.0	0.0
87.5°	60.9	57.7	49.8	40.7	30.4	18.8	7.1	0.0	0.0	0.0	0.0
90°	60.1	57.4	49.6	40.7	30.2	18.7	7.2	0.0	0.0	0.0	0.0
92.5°	60.4	57.2	49.6	40.4	30.2	18.6	7.2	0.0	0.0	0.0	0.0
95°	60.4	57.2	49.2	40.4	29.8	18.6	7.2	0.0	0.0	0.0	0.0
97.5°	59.9	56.5	49.0	40.1	29.8	18.5	7.1	0.0	0.0	0.0	0.0
100°	59.2	56.2	48.8	39.6	29.4	18.2	7.0	0.0	0.0	0.0	0.0
102.5°	58.5	55.6	48.0	38.9	29.0	17.7	6.7	0.0	0.0	0.0	0.0
105°	57.9	54.4	47.5	38.6	28.5	17.7	6.7	0.0	0.0	0.0	0.0
107.5°	56.6	53.7	46.3	37.9	28.1	17.3	6.4	0.0	0.0	0.0	0.0
110°	55.8	52.6	45.7	37.2	27.6	17.0	6.4	0.0	0.0	0.0	0.0





TEST NUMBER: G1-1710-337-22

CATALOG NUMBER: B95-VE-BLK-LD4-12W-40-OPL-120-EDC1

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	54.5	52.0	44.6	36.3	26.8	16.4	6.1	0.0	0.0	0.0	0.0
115°	52.8	50.5	43.7	35.4	26.1	15.9	5.9	0.0	0.0	0.0	0.0
117.5°	51.7	49.0	42.7	34.6	25.6	15.6	5.7	0.0	0.0	0.0	0.0
120°	50.3	47.8	41.2	33.5	24.8	14.9	5.5	0.0	0.0	0.0	0.0
122.5°	48.9	46.3	39.8	32.5	23.7	14.4	5.2	0.0	0.0	0.0	0.0
125°	47.5	44.4	38.8	31.3	22.5	13.7	4.9	0.0	0.0	0.0	0.0
127.5°	45.3	42.7	37.2	30.2	22.0	13.1	4.7	0.0	0.0	0.0	0.0
130°	43.4	40.9	35.3	28.6	20.8	12.4	4.5	0.0	0.0	0.0	0.0
132.5°	41.8	39.3	33.8	27.4	20.0	11.8	4.2	0.0	0.0	0.0	0.0
135°	39.5	37.4	32.1	25.9	18.9	11.1	3.9	0.0	0.0	0.0	0.0
137.5°	37.7	35.4	30.6	24.5	17.8	10.4	3.5	0.0	0.0	0.0	0.0
140°	35.5	33.6	28.6	23.1	16.4	9.5	3.4	0.0	0.0	0.0	0.0
142.5°	32.8	31.1	26.5	21.2	15.1	8.7	2.9	0.0	0.0	0.0	0.0
145°	30.9	29.0	24.8	19.9	14.0	8.2	2.7	0.0	0.0	0.0	0.0
147.5°	28.3	26.6	23.0	18.1	12.9	7.4	2.3	0.0	0.0	0.0	0.0
150°	26.0	24.5	20.7	16.4	11.6	6.4	2.1	0.0	0.0	0.0	0.0
152.5°	23.2	22.1	18.7	14.8	10.3	5.7	1.8	0.0	0.0	0.0	0.0
155°	20.8	19.4	16.5	12.8	8.8	4.9	1.4	0.0	0.0	0.0	0.0
157.5°	18.0	17.0	14.3	11.1	7.6	4.3	1.1	0.0	0.0	0.0	0.0
160°	15.6	14.7	12.3	9.3	6.3	3.4	0.8	0.0	0.0	0.0	0.0
162.5°	12.8	12.0	9.9	7.7	5.2	2.6	0.4	0.0	0.0	0.0	0.0
165°	10.4	9.8	8.0	6.1	4.0	2.2	0.5	0.0	0.0	0.0	0.0
167.5°	8.0	7.3	6.2	4.5	3.1	1.6	0.3	0.0	0.0	0.0	0.0
170°	5.6	5.1	4.2	3.0	1.9	0.7	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)