

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: G1-1710-337-21

Luminaire Tested: **B95-VE-BLK-LD4-8W-40-OPL-120-EDC1**

Test Date: 11/09/17



Test Information

Test Method: LM-79-08
Report Number: G1-1710-337-21
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-LD4-8W-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 @ 150mA
OT25UNVDIM1F0150

Summary

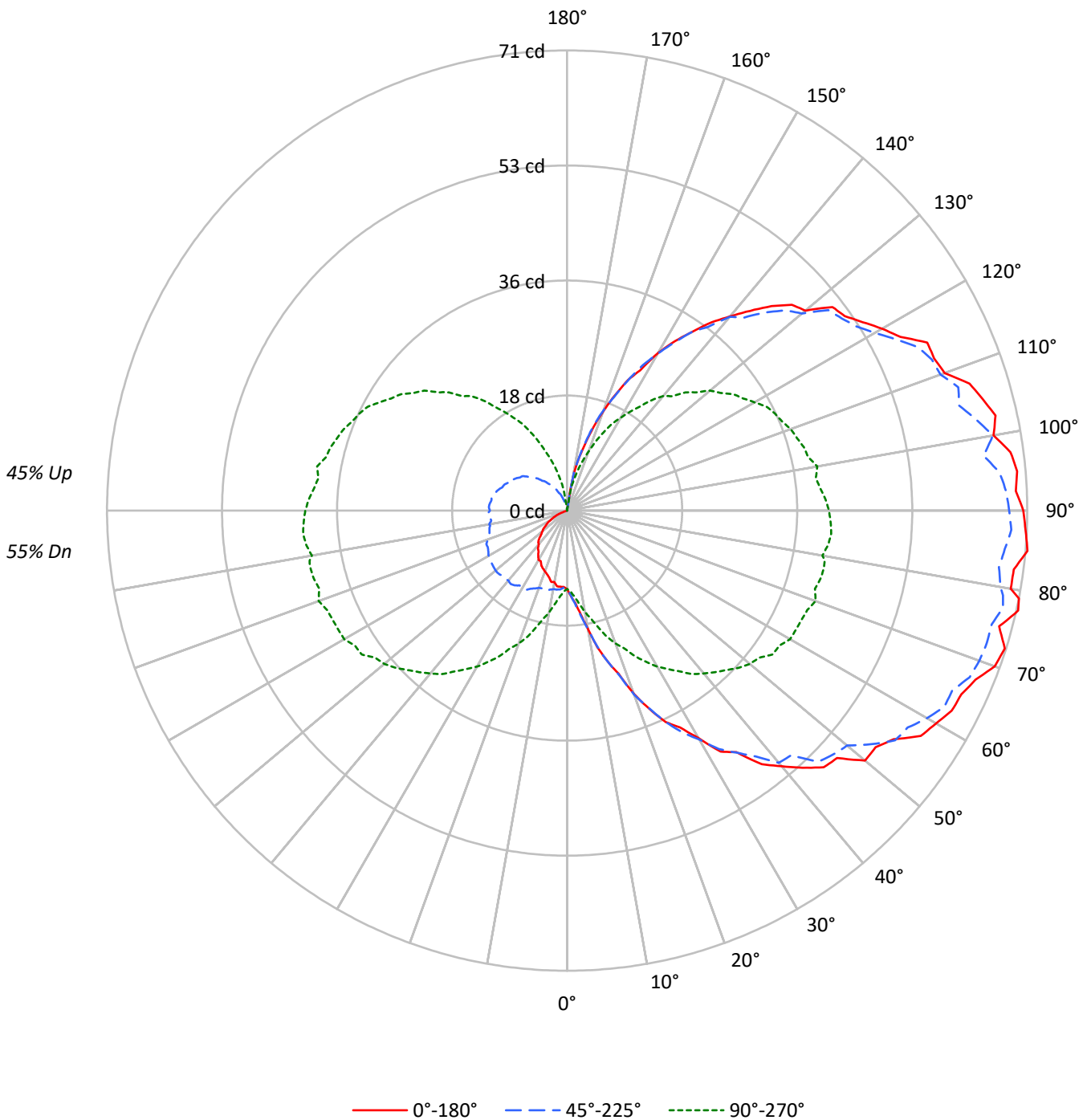
Lumens per Lamp: N/A
Luminaire Lumens: 393.3 lumens
Efficiency: N/A
Efficacy: 50.4 lumens/watt
Spacing Criteria (0/90/45): 2.9 / 3.13 / 3.08
Luminous Opening: Rectangular w/ Sides (W: 0.35' x L: 0.29' x H: 0.67')
CIE Type: General Diffuse

Input Watts (W): 7.8
Input Voltage (V): 120.1
Input Current (A_{in}): 0.0662
Voltage Rise (V): NR
Power Factor: 0.9867
Total Harmonic Distortion (THDi): 10.4%
Frequency (hertz): 60
Stabilization Time: 0.5 HR
Operation Time: 7.0 HR
Ambient Temperature (°C): 25.8
Test Distance: 25 FT

TEST NUMBER: G1-1710-337-21

CATALOG NUMBER: B95-VE-BLK-LD4-8W-40-OPL-120-EDC1

Luminous Intensity Polar Plot





TEST NUMBER: G1-1710-337-21

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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	33	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	12	9	7
9	44	30	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	15	11	18	13	9	14	10	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	1261	1261	1261
5°	1247	1203	1029
10°	1403	1263	845
15°	1612	1341	716
20°	1822	1435	605
25°	2004	1518	523
30°	2101	1603	456
35°	2226	1663	377
40°	2401	1730	317
45°	2512	1779	274
50°	2612	1839	218
55°	2620	1906	170
60°	2761	1942	126
65°	2803	1953	79
70°	2938	2014	25
75°	2915	2032	0
80°	2987	2056	0
85°	3143	2172	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1.3	0.3
10°-20°	5.3	1.3
20°-30°	11.2	2.8
30°-40°	18.4	4.7
40°-50°	25.9	6.6
50°-60°	32.7	8.3
60°-70°	37.9	9.6
70°-80°	40.9	10.4
80°-90°	42.0	10.7
90°-100°	41.4	10.5
100°-110°	38.3	9.7
110°-120°	33.2	8.4
120°-130°	26.4	6.7
130°-140°	19.0	4.8
140°-150°	11.8	3.0
150°-160°	5.8	1.5
160°-170°	1.8	0.5
170°-180°	0.1	0.0
0°-30°	17.8	4.5
0°-40°	36.2	9.2
0°-60°	94.7	24.1
0°-90°	215.6	54.8
90°-120°	112.8	28.7
90°-150°	170.0	43.2
90°-180°	178.0	45.3
0°-180°	393.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	12	12	12	12	12	
5°	14	14	13	12	12	1
15°	24	24	19	13	11	7
25°	36	36	25	13	9	17
35°	46	46	30	14	8	29
45°	56	55	35	14	6	43
55°	62	62	39	14	4	56
65°	67	66	40	14	2	67
75°	69	68	40	12	0	74
85°	71	68	41	12	0	57
90°	70	68	40	12	0	38
95°	70	67	39	12	0	56
105°	66	63	38	11	0	70
115°	61	60	35	10	0	60
125°	52	52	31	9	0	47
135°	45	43	26	7	0	34
145°	34	34	20	5	0	21
155°	22	22	13	3	0	10
165°	10	11	7	1	0	3
175°	0	0	0	0	0	0
180°	0	0	0	0	0	



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CATALOG NUMBER: B95-VE-BLK-LD4-8W-40-OPL-120-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	2°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
2.5°	13.2	13.2	13.3	12.8	12.8	13.0	13.1	12.9	12.9	12.7	12.7
5°	14.3	14.5	14.5	14.4	14.3	14.5	14.5	14.2	14.3	13.6	13.6
7.5°	16.1	16.3	16.2	16.4	16.4	16.2	16.4	16.1	15.8	15.0	14.6
10°	18.6	19.0	19.0	18.4	18.6	18.9	18.6	18.2	17.8	17.1	16.4
12.5°	21.6	21.0	21.3	21.3	21.8	21.8	21.5	20.7	20.0	18.8	18.1
15°	24.1	24.6	24.3	23.7	24.6	24.2	24.1	23.6	22.0	20.8	19.2
17.5°	26.4	26.6	27.2	27.2	26.9	27.2	26.5	25.8	24.4	22.7	21.0
20°	30.1	29.4	29.6	29.6	30.4	30.0	30.2	29.0	26.9	24.9	23.1
22.5°	33.1	32.1	32.5	33.1	33.2	33.0	33.0	30.6	29.0	26.8	24.3
25°	36.0	35.3	35.0	35.4	35.2	35.9	36.0	33.7	31.7	29.3	26.1
27.5°	37.7	38.1	37.8	38.0	38.3	38.9	38.6	35.9	33.6	30.7	27.7
30°	40.5	41.2	41.0	40.9	41.2	41.1	40.8	39.2	36.1	32.8	29.5
32.5°	44.1	43.4	42.9	43.1	44.1	43.9	43.6	41.0	38.1	34.3	30.4
35°	45.5	46.0	46.9	45.6	46.8	45.9	45.6	42.9	40.0	36.5	32.3
37.5°	49.3	47.9	48.6	48.1	48.5	49.0	47.8	44.9	42.0	38.0	33.4
40°	51.5	51.7	51.0	51.0	50.6	50.1	50.8	48.3	43.5	40.0	35.3
42.5°	53.8	52.9	52.9	51.9	52.6	52.9	51.2	49.2	46.0	41.7	36.0
45°	56.0	55.1	55.4	55.2	54.8	55.8	54.8	52.0	47.8	42.4	36.7
47.5°	56.5	56.3	57.6	56.7	56.2	56.7	55.7	53.0	49.0	43.9	38.1
50°	60.0	59.8	57.9	57.8	57.2	57.7	56.4	53.7	51.4	44.7	39.5
52.5°	60.0	59.6	61.0	59.0	58.7	59.4	59.2	56.9	52.8	46.2	39.9
55°	61.5	61.4	61.6	61.4	62.2	62.5	61.8	57.7	52.4	47.9	40.7
57.5°	64.7	63.9	63.9	63.1	62.9	63.1	62.3	58.3	53.4	49.0	41.9
60°	65.7	65.5	65.4	64.5	64.2	64.2	64.1	60.1	55.1	48.9	41.9
62.5°	66.9	67.0	65.5	64.6	64.9	64.7	65.6	61.2	56.3	50.5	42.6
65°	67.1	67.8	67.2	65.3	64.7	66.4	65.6	62.6	57.0	50.5	42.4
67.5°	68.2	68.3	67.9	66.7	66.7	68.2	67.2	63.8	56.9	51.3	43.9
70°	70.2	68.1	68.4	66.8	68.1	67.9	67.7	63.6	58.2	51.7	44.2
72.5°	70.8	69.7	69.5	68.3	66.8	67.7	67.9	64.9	58.0	51.4	43.5
75°	69.0	70.2	69.0	67.7	68.2	70.1	67.8	63.4	58.7	50.7	43.2
77.5°	71.3	70.7	71.2	68.7	67.8	68.1	68.9	65.3	57.9	51.1	44.4
79°	71.0	71.7	69.6	68.3	67.6	69.1	68.5	64.4	58.2	51.5	43.1
80°	69.5	70.4	70.2	69.0	68.8	69.1	67.9	64.5	57.7	51.3	43.6
82.5°	69.5	70.2	70.1	68.6	68.0	69.1	67.2	64.6	58.6	51.3	42.8
85°	71.3	70.4	70.2	68.1	67.4	68.1	67.8	63.5	57.9	51.4	43.7
87.5°	70.8	69.9	69.0	68.5	67.7	69.7	68.6	64.3	57.5	51.8	43.8
90°	70.4	70.7	69.2	67.6	67.7	68.4	68.2	63.3	58.2	51.0	43.6
92.5°	69.3	68.1	68.8	67.1	67.7	69.0	67.8	63.3	57.7	50.9	42.9
95°	69.7	69.8	68.1	67.4	67.7	67.5	67.0	64.2	58.6	50.6	42.2
97.5°	69.0	68.1	68.5	66.5	65.9	65.9	64.8	61.7	57.8	49.3	42.4
100°	66.8	68.7	66.3	66.8	65.0	66.8	66.7	62.7	56.3	49.7	42.4
102.5°	67.7	65.5	66.5	64.9	64.9	65.8	64.7	62.3	55.3	49.9	41.3
105°	66.4	65.8	65.2	63.7	63.6	63.6	62.6	60.4	54.7	49.0	40.9
107.5°	65.1	64.5	63.4	62.7	61.7	63.5	63.3	59.7	53.9	48.1	40.6



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CANDELA DISTRIBUTION (continued):

	0°	2°	5°	15°	25°	35°	45°	55°	65°	75°	85°
110°	62.0	64.0	63.1	60.6	61.3	62.4	61.3	58.3	53.6	47.3	38.8
112.5°	61.3	61.0	61.8	61.5	60.4	60.7	60.9	57.6	52.1	45.8	38.6
115°	61.3	61.1	59.6	58.8	57.8	59.8	59.7	55.2	51.7	45.2	37.7
117.5°	58.0	58.4	59.1	57.7	57.7	58.5	57.2	54.3	50.5	43.7	37.3
120°	56.1	57.3	56.0	55.6	55.3	56.3	54.8	52.8	48.3	42.1	35.8
122.5°	54.1	54.4	54.9	53.8	53.0	54.9	52.9	51.8	45.9	40.7	34.9
125°	52.3	52.6	52.9	51.9	52.1	51.9	51.7	49.3	45.4	39.7	33.2
127.5°	51.6	50.5	50.8	49.3	50.7	51.5	50.8	46.6	43.0	38.1	31.4
130°	48.0	49.4	48.3	47.8	48.0	48.2	47.3	44.8	41.3	36.0	30.6
132.5°	47.0	46.4	46.2	46.2	46.4	47.2	45.7	42.9	39.8	33.9	28.7
135°	44.6	43.9	43.6	43.5	44.1	44.1	43.2	41.1	37.5	32.6	27.5
137.5°	41.8	41.0	41.5	41.1	40.3	42.4	40.4	38.8	35.4	31.2	25.6
140°	39.1	38.9	39.4	38.4	38.7	39.2	39.0	35.9	33.6	28.9	24.6
142.5°	36.6	36.2	35.6	36.2	36.2	36.4	35.7	34.0	30.9	27.1	23.3
145°	33.7	33.5	33.9	33.1	32.9	34.3	33.7	30.8	28.6	25.0	21.6
147.5°	31.0	30.8	30.6	29.9	30.5	31.4	30.7	28.6	26.7	23.1	19.7
150°	28.1	27.8	27.9	27.3	28.3	28.8	27.9	25.8	24.2	20.9	18.1
152.5°	24.4	24.8	25.3	24.6	25.1	25.3	25.3	23.9	21.8	19.1	16.3
155°	22.2	22.2	21.6	21.7	22.2	22.6	22.1	20.8	19.1	16.5	14.0
157.5°	19.2	18.8	18.8	18.9	19.6	19.7	19.0	18.1	16.7	14.6	12.5
160°	16.3	16.2	16.1	16.5	16.6	17.0	16.5	15.8	14.2	12.4	10.9
162.5°	13.5	13.3	13.3	13.3	13.7	14.0	13.9	12.9	11.7	10.5	8.9
165°	10.5	10.6	10.6	10.7	11.1	11.3	10.9	10.6	9.4	8.4	7.2
167.5°	8.1	8.2	8.1	8.1	8.3	8.4	8.2	7.7	7.1	6.4	5.2
170°	5.5	5.4	5.5	5.6	5.8	5.9	5.8	5.6	5.1	4.4	3.8
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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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
2.5°	12.5	12.5	12.3	12.2	12.0	11.9	12.2	11.8	11.9	12.2	11.8
5°	13.4	13.2	12.8	12.5	12.2	12.2	12.1	11.9	11.8	11.4	11.8
7.5°	14.5	14.5	13.8	13.2	12.8	12.3	12.0	11.6	11.3	11.5	11.8
10°	15.9	15.6	14.6	14.0	13.1	12.3	11.7	11.4	11.3	11.2	11.2
12.5°	17.1	16.6	15.7	15.0	13.5	12.5	11.5	11.0	11.0	10.8	11.3
15°	18.7	18.0	17.1	15.6	13.9	12.8	11.6	11.1	10.8	10.7	10.7
17.5°	20.4	19.6	18.3	16.2	14.7	12.6	11.2	10.4	10.5	10.3	10.3
20°	21.8	21.4	19.1	17.1	15.0	12.7	11.3	10.3	10.3	10.3	10.0
22.5°	23.0	22.8	20.8	18.5	16.1	13.0	11.1	9.9	9.8	9.7	9.7
25°	24.8	24.4	21.8	18.9	16.5	13.3	11.0	9.4	9.5	9.6	9.4
27.5°	26.3	25.3	22.5	19.9	16.9	13.8	10.7	9.2	9.0	8.9	8.8
30°	27.8	26.7	24.1	21.1	17.5	13.7	10.5	8.9	8.9	8.5	8.8
32.5°	29.0	27.7	25.4	21.9	17.8	13.7	10.3	8.5	8.3	8.4	8.3
35°	30.3	29.7	25.9	22.7	18.4	14.1	10.4	8.1	7.9	7.9	7.7
37.5°	31.8	30.8	27.3	23.2	18.8	14.3	10.0	7.8	7.4	7.4	7.4
40°	32.8	31.2	27.3	23.7	19.1	14.1	9.8	7.2	6.9	7.0	6.8
42.5°	33.8	32.9	28.8	24.4	19.7	14.2	9.8	6.8	6.7	6.5	6.6
45°	34.8	33.2	29.9	25.1	19.9	14.2	9.4	6.4	6.1	6.0	6.1
47.5°	35.9	34.5	30.6	25.5	19.8	14.4	9.0	5.9	5.6	5.4	5.4
50°	36.8	34.8	30.4	26.1	20.2	14.4	8.9	5.2	5.2	5.1	5.0
52.5°	37.3	35.1	31.3	25.8	20.5	14.3	8.5	4.8	4.7	4.6	4.6
55°	38.7	36.9	32.1	26.6	20.8	14.2	8.2	4.3	4.2	4.0	4.0
57.5°	38.8	37.3	32.7	26.8	20.3	14.2	7.6	3.6	3.4	3.4	3.6
60°	39.7	37.3	32.1	26.6	20.5	14.0	7.3	3.0	2.9	2.9	3.0
62.5°	39.8	37.8	33.4	27.7	20.7	13.7	7.0	2.5	2.3	2.5	2.5
65°	39.9	38.1	33.3	27.4	21.0	13.5	6.3	1.9	1.6	1.9	1.9
67.5°	40.1	38.3	33.3	27.2	20.4	13.5	5.9	1.2	1.0	1.3	1.4
70°	40.8	38.0	32.9	27.4	20.6	13.0	5.7	0.6	0.6	0.6	0.6
72.5°	40.1	39.1	33.2	27.2	20.3	12.6	5.3	0.2	0.1	0.0	0.0
75°	40.5	38.0	33.3	27.2	20.3	12.4	4.9	0.0	0.0	0.0	0.0
77.5°	40.6	38.0	33.3	26.9	20.0	12.3	4.8	0.0	0.0	0.0	0.0
79°	40.5	38.5	33.2	26.9	19.7	12.1	4.7	0.0	0.0	0.0	0.0
80°	40.0	38.3	32.5	26.2	19.9	12.2	4.6	0.0	0.0	0.0	0.0
82.5°	40.6	37.7	32.9	26.6	20.0	11.8	4.5	0.0	0.0	0.0	0.0
85°	40.9	38.0	32.8	26.6	19.8	12.0	4.7	0.0	0.0	0.0	0.0
87.5°	40.7	38.4	32.6	26.5	19.9	12.3	4.7	0.0	0.0	0.0	0.0
90°	40.4	38.2	32.3	26.3	19.9	11.9	4.4	0.0	0.0	0.0	0.0
92.5°	39.9	38.1	33.0	26.1	19.2	12.1	4.5	0.0	0.0	0.0	0.0
95°	39.2	37.6	32.1	26.5	19.9	12.0	4.7	0.0	0.0	0.0	0.0
97.5°	38.7	37.6	32.5	26.3	19.2	11.8	4.3	0.0	0.0	0.0	0.0
100°	39.2	36.8	31.5	26.3	19.0	11.8	4.4	0.0	0.0	0.0	0.0
102.5°	38.1	36.9	31.0	25.6	18.9	11.4	4.5	0.0	0.0	0.0	0.0
105°	37.8	36.2	31.3	25.3	18.5	11.3	4.3	0.0	0.0	0.0	0.0
107.5°	37.2	35.2	30.8	24.5	17.8	11.0	4.0	0.0	0.0	0.0	0.0



TEST NUMBER: G1-1710-337-21

CATALOG NUMBER: B95-VE-BLK-LD4-8W-40-OPL-120-EDC1

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	36.7	34.4	29.6	24.2	17.8	10.6	4.1	0.0	0.0	0.0	0.0
112.5°	35.9	34.0	29.5	23.7	17.5	10.5	3.9	0.0	0.0	0.0	0.0
115°	35.4	33.4	29.0	23.0	16.7	10.1	3.9	0.0	0.0	0.0	0.0
117.5°	34.7	32.5	27.8	22.5	16.8	10.2	3.8	0.0	0.0	0.0	0.0
120°	33.4	31.3	27.1	21.6	16.0	9.6	3.6	0.0	0.0	0.0	0.0
122.5°	32.2	30.6	26.1	21.2	15.3	9.3	3.5	0.0	0.0	0.0	0.0
125°	31.3	29.4	24.9	20.4	15.1	8.9	3.2	0.0	0.0	0.0	0.0
127.5°	29.8	28.3	24.2	19.6	14.2	8.7	3.1	0.0	0.0	0.0	0.0
130°	28.8	26.9	23.1	18.6	13.4	8.2	3.1	0.0	0.0	0.0	0.0
132.5°	27.0	25.3	22.2	17.5	12.7	7.5	2.7	0.0	0.0	0.0	0.0
135°	25.8	24.1	20.7	16.7	12.0	7.1	2.6	0.0	0.0	0.0	0.0
137.5°	23.9	23.0	19.6	15.6	11.3	6.7	2.2	0.0	0.0	0.0	0.0
140°	23.1	21.8	18.6	15.1	10.7	6.0	2.1	0.0	0.0	0.0	0.0
142.5°	21.5	20.5	17.5	13.9	9.7	5.7	1.9	0.0	0.0	0.0	0.0
145°	19.6	18.8	15.9	12.7	9.1	5.1	1.8	0.0	0.0	0.0	0.0
147.5°	18.1	17.4	14.8	11.9	8.1	4.7	1.6	0.0	0.0	0.0	0.0
150°	16.5	16.0	13.3	10.4	7.3	4.1	1.3	0.0	0.0	0.0	0.0
152.5°	15.2	14.0	12.0	9.4	6.6	3.7	1.0	0.0	0.0	0.0	0.0
155°	13.3	12.5	10.8	8.3	5.6	3.0	0.8	0.0	0.0	0.0	0.0
157.5°	11.6	11.0	9.1	7.2	4.9	2.8	0.8	0.0	0.0	0.0	0.0
160°	9.7	9.2	7.7	6.0	4.1	2.2	0.5	0.0	0.0	0.0	0.0
162.5°	8.1	7.8	6.5	4.9	3.3	1.7	0.5	0.0	0.0	0.0	0.0
165°	6.6	6.1	5.3	3.8	2.6	1.3	0.3	0.0	0.0	0.0	0.0
167.5°	5.0	4.7	3.8	2.7	1.9	0.9	0.1	0.0	0.0	0.0	0.0
170°	3.5	3.2	2.6	1.9	1.1	0.4	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)