

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: G1-1710-337-17

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

Test Date: 11/21/17



**Test Information**

Test Method: LM-79-08  
Report Number: G1-1710-337-17  
Test Lab: INNOVATION CENTER(G1)  
Test Date: 11/21/17  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: B95-HE-BLK-LD4-8W-40-OPL-120-EDC1  
Description: VR 2000 BRICK LED WITH OPAL LENS & HORIZONTAL EYELID FLAT BLACK.  
Light Source: (56) NICHIA 4000K LEDS  
1FS402256M8404  
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER @ 150mA  
OT25UNVDIM1F0150

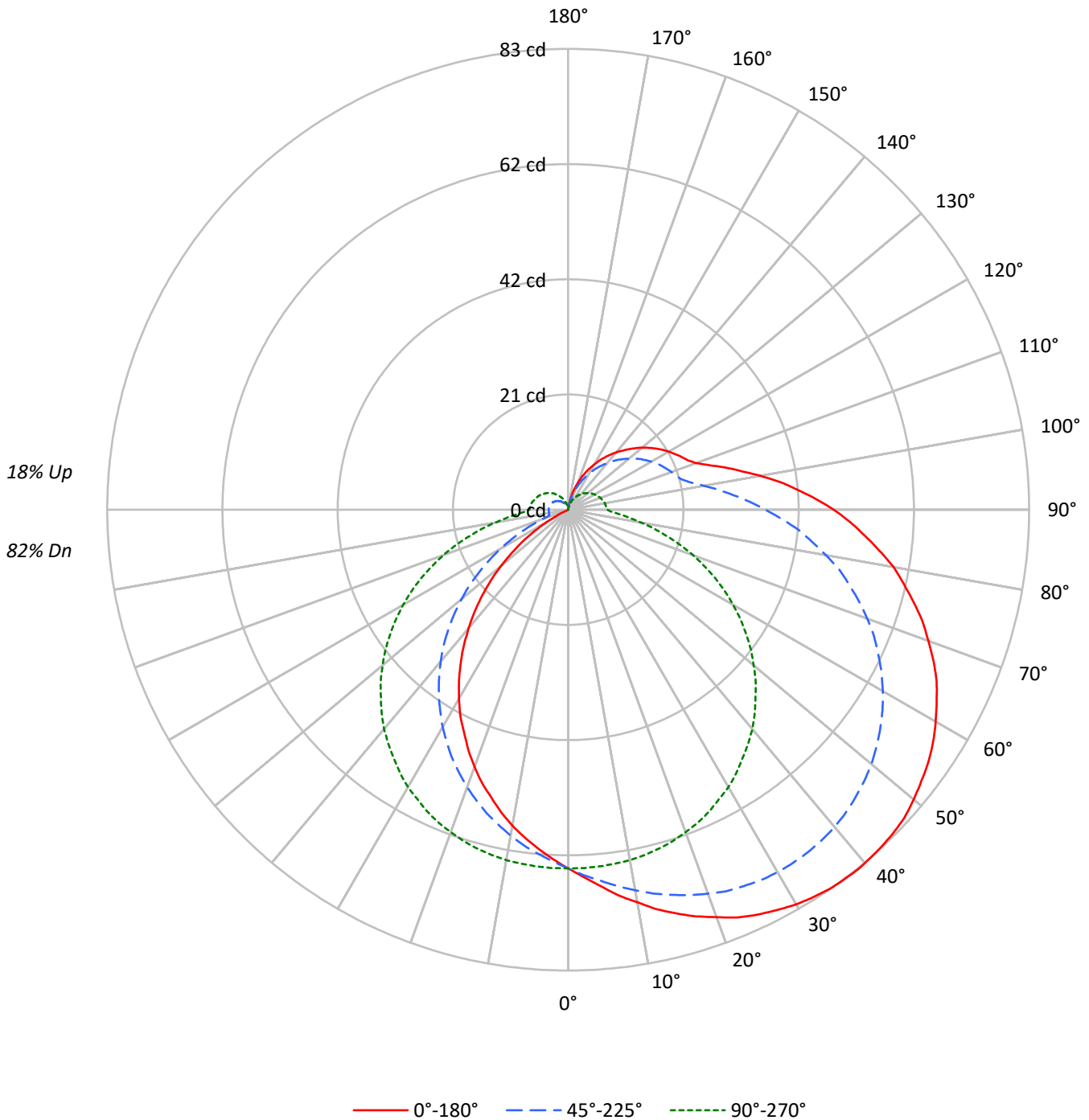
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 308.5 lumens  
Efficiency: N/A  
Efficacy: 39.5 lumens/watt  
Spacing Criteria (0/90/45): 1.39 / 1.32 / 1.52  
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 0.29' x H: 0.35')  
CIE Type: Semi-Direct  
  
Input Watts (W): 7.8  
Input Voltage (V): 120.1  
Input Current (Ain): 0.0662  
Voltage Rise (V): NR  
Power Factor: 0.9867  
Total Harmonic Distortion (THDi): 10.3  
Frequency (hertz): 60  
Stabilization Time: 0.5 HR  
Operation Time: 7.0 HR  
Ambient Temperature (°C): 25.3  
Test Distance: 25 FT

TEST NUMBER: G1-1710-337-17

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

### Luminous Intensity Polar Plot





TEST NUMBER: G1-1710-337-17

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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	115	115	115	115	110	110	110	110	101	101	101	93	93	93	85	85	85	82
1	102	96	90	86	97	92	87	82	84	80	76	77	74	71	70	68	66	62
2	91	82	74	68	87	78	71	65	72	66	61	66	61	57	60	56	53	50
3	83	71	62	55	78	68	60	53	62	56	50	57	52	47	52	48	44	41
4	75	62	53	46	71	60	51	44	55	48	42	50	44	39	46	41	37	34
5	69	55	46	39	65	53	44	38	49	41	36	45	39	34	41	36	32	29
6	63	50	40	34	60	48	39	33	44	36	31	40	34	29	37	32	28	25
7	59	45	36	29	56	43	35	29	40	32	27	37	30	26	34	28	24	22
8	54	41	32	26	52	39	31	25	36	29	24	34	27	23	31	26	22	19
9	51	37	29	23	48	36	28	23	33	26	21	31	25	20	29	23	19	17
10	47	34	26	21	45	33	25	20	31	24	19	29	23	18	27	21	17	16

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

	0°	90°	180°
0°	3576	3576	3576
5°	3421	3425	3079
10°	3324	3295	2676
15°	3256	3171	2318
20°	3191	3051	2014
25°	3139	2937	1728
30°	3085	2823	1477
35°	3031	2694	1231
40°	2974	2579	999
45°	2920	2439	774
50°	2858	2299	556
55°	2796	2146	349
60°	2726	1978	153
65°	2660	1788	18
70°	2575	1573	0
75°	2490	1319	0
80°	2405	1057	0
85°	2288	826	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	6.2	2.0
10°-20°	18.1	5.9
20°-30°	28.5	9.2
30°-40°	35.9	11.6
40°-50°	39.4	12.8
50°-60°	38.6	12.5
60°-70°	34.1	11.1
70°-80°	28.4	9.2
80°-90°	22.5	7.3
90°-100°	16.8	5.5
100°-110°	12.4	4.0
110°-120°	9.7	3.2
120°-130°	7.5	2.4
130°-140°	5.2	1.7
140°-150°	3.1	1.0
150°-160°	1.5	0.5
160°-170°	0.4	0.1
170°-180°	0.0	0.0
0°-30°	52.8	17.1
0°-40°	88.7	28.7
0°-60°	166.7	54.0
0°-90°	251.7	81.6
90°-120°	39.0	12.6
90°-150°	54.8	17.8
90°-180°	57.0	18.5
0°-180°	308.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	65	65	65	65	65	
5°	68	67	64	62	61	7
15°	75	72	63	57	54	21
25°	80	75	60	49	44	37
35°	83	75	55	41	34	52
45°	83	73	48	30	22	64
55°	79	69	39	20	10	71
65°	73	62	29	9	0	72
75°	64	52	18	4	0	68
85°	54	42	9	4	0	45
90°	48	36	7	4	0	26
95°	41	30	7	4	0	33
105°	29	21	6	3	0	31
115°	22	19	6	3	0	22
125°	19	16	5	3	0	17
135°	15	13	4	2	0	12
145°	12	9	3	2	0	7
155°	7	6	2	1	0	3
165°	3	2	1	0	0	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	2°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6
2.5°	66.3	66.4	66.3	66.3	66.2	66.0	65.9	65.6	65.4	65.1	64.8
5°	68.1	68.2	68.3	68.1	67.9	67.5	67.1	66.6	66.0	65.4	64.8
7.5°	70.1	70.1	70.1	69.9	69.6	69.1	68.4	67.6	66.7	65.8	64.8
10°	71.8	71.9	71.9	71.7	71.3	70.6	69.6	68.6	67.3	66.0	64.7
12.5°	73.7	73.7	73.7	73.5	72.8	72.0	70.8	69.4	67.8	66.1	64.5
15°	75.3	75.3	75.3	75.1	74.4	73.3	71.8	70.1	68.2	66.1	64.1
17.5°	76.8	77.0	76.9	76.5	75.7	74.5	72.8	70.7	68.4	66.0	63.6
20°	78.1	78.3	78.2	77.8	76.9	75.5	73.6	71.2	68.7	65.8	63.1
22.5°	79.5	79.5	79.4	79.0	78.1	76.4	74.4	71.6	68.7	65.5	62.4
25°	80.5	80.6	80.5	80.1	79.0	77.2	74.8	71.9	68.6	65.0	61.5
27.5°	81.3	81.4	81.3	80.9	79.7	77.8	75.2	72.0	68.3	64.3	60.5
30°	82.1	82.1	82.0	81.5	80.3	78.2	75.4	71.9	67.9	63.7	59.5
32.5°	82.6	82.7	82.6	82.1	80.7	78.4	75.4	71.7	67.4	62.7	58.3
35°	83.0	83.0	83.0	82.4	81.0	78.6	75.3	71.3	66.7	61.7	57.0
37.5°	83.1	83.2	83.1	82.6	81.0	78.5	75.0	70.8	65.9	60.5	55.5
39°	83.2	83.3	83.2	82.6	81.1	78.4	74.8	70.4	65.4	59.8	54.6
40°	83.1	83.3	83.1	82.6	80.9	78.2	74.6	70.1	65.0	59.3	53.9
42.5°	82.9	83.1	83.0	82.3	80.7	77.9	74.0	69.2	63.9	57.9	52.2
45°	82.6	82.6	82.5	81.9	80.1	77.2	73.2	68.3	62.7	56.5	50.4
47.5°	82.1	82.2	82.0	81.4	79.6	76.5	72.3	67.2	61.3	54.8	48.5
50°	81.2	81.3	81.2	80.6	78.6	75.5	71.3	66.0	59.8	53.1	46.4
52.5°	80.2	80.3	80.3	79.6	77.8	74.4	70.0	64.5	58.2	51.2	44.3
55°	79.2	79.3	79.2	78.5	76.4	73.3	68.6	63.0	56.5	49.3	42.1
57.5°	77.9	78.0	77.9	77.2	75.2	71.9	67.1	61.3	54.6	47.2	39.8
60°	76.4	76.4	76.4	75.8	73.7	70.1	65.4	59.5	52.7	45.1	37.4
62.5°	74.8	74.9	74.9	74.1	72.0	68.4	63.6	57.6	50.7	42.7	35.0
65°	73.2	73.2	73.1	72.3	70.2	66.5	61.6	55.6	48.5	40.4	32.5
67.5°	71.2	71.3	71.3	70.5	68.3	64.6	59.6	53.4	46.2	37.9	29.7
70°	69.0	69.3	69.2	68.4	66.2	62.4	57.3	51.1	43.7	35.5	27.2
72.5°	66.9	66.9	66.9	66.2	64.0	60.1	54.9	48.6	41.1	32.7	24.4
75°	64.4	64.5	64.4	63.8	61.6	57.6	52.4	46.1	38.6	30.1	21.7
77.5°	61.9	62.1	61.9	61.3	59.1	55.1	50.0	43.3	35.9	27.4	19.0
80°	59.5	59.5	59.4	58.8	56.5	52.4	47.1	40.7	33.1	24.5	16.4
82.5°	56.5	56.7	56.6	55.8	53.5	49.6	44.3	37.8	30.4	21.9	14.0
85°	53.6	53.8	53.6	53.1	50.6	46.8	41.6	35.0	27.6	19.3	11.6
87.5°	50.8	50.8	50.7	50.1	47.7	43.8	38.5	32.3	24.8	16.9	9.8
90°	47.8	47.8	47.7	47.1	44.8	40.8	35.5	29.3	22.3	14.7	8.3
92.5°	44.6	44.7	44.6	43.9	41.7	37.9	32.7	26.6	19.8	12.9	7.7
95°	41.4	41.6	41.6	40.9	38.6	34.9	29.9	24.1	17.7	11.6	7.6
97.5°	38.4	38.4	38.3	37.7	35.6	32.0	27.3	21.7	16.1	11.3	7.5
100°	35.1	35.2	35.2	34.7	32.6	29.2	24.8	19.8	15.2	11.0	7.4
102.5°	32.0	32.1	32.1	31.6	29.8	26.6	22.6	18.5	14.8	10.7	7.2
105°	29.3	29.2	29.3	28.8	27.1	24.4	21.1	18.0	14.5	10.4	7.1
107.5°	26.6	26.6	26.7	26.4	24.9	22.7	20.4	17.5	14.0	10.1	6.9



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

**CANDELA DISTRIBUTION (continued):**

	0°	2°	5°	15°	25°	35°	45°	55°	65°	75°	85°
110°	24.5	24.5	24.6	24.5	23.6	22.0	19.8	16.9	13.6	9.8	6.7
112.5°	23.3	23.3	23.4	23.5	22.8	21.4	19.2	16.5	13.1	9.5	6.5
115°	22.5	22.5	22.6	22.7	22.1	20.7	18.6	15.9	12.7	9.2	6.3
117.5°	21.7	21.8	21.8	21.9	21.3	19.9	18.0	15.3	12.2	8.8	6.1
120°	20.9	20.9	21.0	21.0	20.5	19.2	17.3	14.7	11.7	8.5	5.9
122.5°	20.1	20.1	20.1	20.2	19.7	18.4	16.6	14.1	11.2	8.1	5.7
125°	19.2	19.2	19.2	19.3	18.8	17.7	15.9	13.5	10.7	7.7	5.4
127.5°	18.3	18.3	18.4	18.5	18.0	16.8	15.1	12.9	10.1	7.3	5.2
130°	17.4	17.4	17.4	17.5	17.1	16.0	14.3	12.1	9.6	6.9	4.9
132.5°	16.4	16.4	16.5	16.6	16.1	15.1	13.5	11.5	9.0	6.5	4.7
135°	15.4	15.5	15.5	15.6	15.2	14.2	12.7	10.7	8.4	6.1	4.4
137.5°	14.4	14.5	14.6	14.6	14.2	13.3	11.9	10.0	7.9	5.6	4.1
140°	13.5	13.5	13.6	13.6	13.2	12.4	11.0	9.3	7.3	5.2	3.9
142.5°	12.5	12.5	12.5	12.6	12.2	11.4	10.1	8.5	6.6	4.8	3.6
145°	11.5	11.5	11.6	11.6	11.2	10.5	9.3	7.8	6.1	4.4	3.3
147.5°	10.5	10.5	10.5	10.5	10.2	9.5	8.4	7.0	5.4	3.9	3.0
150°	9.4	9.5	9.5	9.5	9.1	8.5	7.5	6.2	4.8	3.5	2.7
152.5°	8.4	8.4	8.4	8.4	8.1	7.5	6.6	5.5	4.2	3.1	2.4
155°	7.4	7.3	7.3	7.3	7.1	6.5	5.7	4.7	3.6	2.6	2.1
157.5°	6.3	6.3	6.3	6.3	6.0	5.5	4.8	4.0	3.0	2.2	1.8
160°	5.3	5.3	5.3	5.2	5.0	4.6	4.0	3.3	2.5	1.9	1.6
162.5°	4.2	4.2	4.2	4.2	4.0	3.6	3.2	2.6	2.0	1.5	1.3
165°	3.2	3.3	3.2	3.2	3.0	2.7	2.3	1.9	1.5	1.1	1.0
167.5°	2.3	2.3	2.3	2.3	2.2	1.9	1.7	1.3	1.0	0.8	0.8
170°	1.5	1.5	1.5	1.4	1.4	1.2	1.0	0.8	0.6	0.5	0.5
172.5°	0.8	0.8	0.8	0.8	0.7	0.6	0.5	0.4	0.3	0.3	0.3
175°	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
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°	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6	64.6
2.5°	64.6	64.4	64.1	63.9	63.6	63.4	63.2	63.1	63.0	62.9	63.0
5°	64.5	64.2	63.6	63.1	62.6	62.2	61.8	61.6	61.4	61.3	61.3
7.5°	64.3	63.9	63.0	62.3	61.6	61.0	60.5	60.0	59.7	59.6	59.6
10°	64.1	63.5	62.4	61.4	60.4	59.6	58.9	58.3	57.9	57.7	57.8
12.5°	63.7	63.0	61.7	60.4	59.3	58.1	57.3	56.5	56.0	55.7	55.8
15°	63.2	62.3	60.8	59.3	57.8	56.6	55.5	54.6	54.0	53.7	53.6
17.5°	62.6	61.6	59.8	58.0	56.4	54.9	53.7	52.6	51.9	51.6	51.6
20°	61.8	60.7	58.7	56.7	55.0	53.2	51.7	50.5	49.7	49.3	49.3
22.5°	61.0	59.7	57.5	55.3	53.2	51.3	49.6	48.3	47.3	47.0	46.9
25°	60.0	58.6	56.2	53.8	51.4	49.4	47.5	46.0	44.9	44.3	44.3
27.5°	58.8	57.4	54.7	52.1	49.7	47.3	45.2	43.6	42.4	41.8	42.0
30°	57.7	56.1	53.1	50.3	47.7	45.2	43.0	41.0	39.8	39.3	39.3
32.5°	56.3	54.6	51.6	48.5	45.6	42.9	40.5	38.5	37.1	36.5	36.6
35°	54.7	53.1	49.7	46.5	43.4	40.6	38.1	35.9	34.3	33.7	33.7
37.5°	53.2	51.4	47.9	44.5	41.3	38.2	35.5	33.2	31.6	30.8	30.9
39°	52.2	50.3	46.8	43.3	39.9	36.7	33.9	31.5	29.9	29.1	29.0
40°	51.6	49.6	45.9	42.4	38.9	35.7	32.8	30.5	28.6	28.0	27.9
42.5°	49.7	47.8	44.0	40.1	36.5	33.2	30.1	27.6	25.8	25.0	24.9
45°	47.7	45.7	41.7	37.9	34.0	30.5	27.4	24.8	22.9	22.0	21.9
47.5°	45.8	43.6	39.4	35.4	31.4	27.8	24.7	21.7	19.8	18.9	18.9
50°	43.6	41.4	37.2	33.0	28.8	25.1	21.7	18.9	16.9	16.0	15.8
52.5°	41.5	39.1	34.8	30.4	26.2	22.4	19.0	16.0	13.8	12.9	12.8
55°	39.1	36.8	32.3	27.8	23.6	19.5	16.0	13.1	10.9	10.0	9.9
57.5°	36.8	34.3	29.6	25.2	20.8	16.8	13.4	10.3	8.1	7.1	7.1
60°	34.3	31.8	27.2	22.5	18.1	14.0	10.5	7.6	5.3	4.6	4.3
62.5°	31.8	29.3	24.5	19.8	15.5	11.5	8.0	5.1	3.0	2.3	2.1
65°	29.2	26.7	21.8	17.1	12.8	8.9	5.7	3.0	1.0	0.5	0.5
67.5°	26.5	24.0	19.2	14.5	10.2	6.7	3.8	1.4	0.0	0.0	0.0
70°	23.9	21.3	16.5	12.1	8.0	4.8	2.4	1.0	0.0	0.0	0.0
72.5°	21.2	18.8	14.0	9.8	6.2	3.6	2.3	1.0	0.0	0.0	0.0
75°	18.4	16.0	11.6	7.8	4.8	3.5	2.3	1.0	0.0	0.0	0.0
77.5°	15.9	13.6	9.6	6.3	4.6	3.5	2.3	1.0	0.0	0.0	0.0
80°	13.3	11.4	7.8	5.6	4.6	3.5	2.4	1.0	0.0	0.0	0.0
82.5°	11.1	9.3	6.6	5.6	4.6	3.5	2.4	1.1	0.0	0.0	0.0
85°	9.2	7.8	6.3	5.6	4.6	3.5	2.4	1.1	0.0	0.0	0.0
87.5°	7.7	6.9	6.3	5.6	4.6	3.5	2.4	1.1	0.0	0.0	0.0
90°	7.0	6.8	6.3	5.6	4.6	3.5	2.4	1.1	0.0	0.0	0.0
92.5°	6.9	6.7	6.3	5.5	4.6	3.5	2.4	1.1	0.0	0.0	0.0
95°	6.8	6.7	6.2	5.5	4.6	3.5	2.4	1.1	0.0	0.0	0.0
97.5°	6.8	6.6	6.2	5.4	4.5	3.5	2.4	1.1	0.0	0.0	0.0
100°	6.7	6.5	6.1	5.4	4.5	3.5	2.4	1.1	0.0	0.0	0.0
102.5°	6.6	6.4	6.0	5.3	4.4	3.4	2.3	1.1	0.0	0.0	0.0
105°	6.4	6.3	5.9	5.2	4.3	3.4	2.3	1.1	0.0	0.0	0.0
107.5°	6.3	6.2	5.8	5.1	4.3	3.3	2.3	1.1	0.0	0.0	0.0





TEST NUMBER: G1-1710-337-17

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

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	6.2	6.0	5.6	5.0	4.2	3.2	2.2	1.0	0.0	0.0	0.0
112.5°	6.0	5.9	5.5	4.9	4.1	3.2	2.2	1.0	0.0	0.0	0.0
115°	5.9	5.7	5.3	4.7	4.0	3.1	2.1	0.9	0.0	0.0	0.0
117.5°	5.7	5.6	5.2	4.6	3.8	3.0	2.0	0.9	0.0	0.0	0.0
120°	5.5	5.4	5.0	4.4	3.7	2.9	2.0	0.8	0.0	0.0	0.0
122.5°	5.3	5.2	4.8	4.3	3.6	2.8	1.9	0.8	0.0	0.0	0.0
125°	5.1	5.0	4.6	4.1	3.4	2.7	1.8	0.7	0.0	0.0	0.0
127.5°	4.9	4.8	4.4	4.0	3.3	2.6	1.7	0.6	0.0	0.0	0.0
130°	4.7	4.6	4.2	3.8	3.1	2.4	1.6	0.6	0.0	0.0	0.0
132.5°	4.4	4.3	4.0	3.6	3.0	2.3	1.5	0.6	0.0	0.0	0.0
135°	4.2	4.1	3.8	3.4	2.8	2.2	1.4	0.5	0.0	0.0	0.0
137.5°	4.0	3.9	3.6	3.2	2.7	2.0	1.3	0.5	0.0	0.0	0.0
140°	3.7	3.6	3.4	3.0	2.5	1.9	1.2	0.5	0.0	0.0	0.0
142.5°	3.4	3.4	3.1	2.7	2.3	1.7	1.1	0.4	0.0	0.0	0.0
145°	3.2	3.1	2.9	2.6	2.1	1.6	1.0	0.4	0.0	0.0	0.0
147.5°	2.9	2.9	2.6	2.3	1.9	1.4	0.9	0.4	0.0	0.0	0.0
150°	2.6	2.6	2.4	2.1	1.7	1.3	0.8	0.3	0.0	0.0	0.0
152.5°	2.4	2.3	2.2	1.9	1.5	1.1	0.7	0.3	0.0	0.0	0.0
155°	2.1	2.0	1.9	1.6	1.3	1.0	0.6	0.2	0.0	0.0	0.0
157.5°	1.8	1.8	1.6	1.4	1.1	0.8	0.5	0.2	0.0	0.0	0.0
160°	1.5	1.5	1.4	1.2	0.9	0.7	0.4	0.1	0.0	0.0	0.0
162.5°	1.3	1.2	1.1	1.0	0.8	0.5	0.3	0.1	0.0	0.0	0.0
165°	1.0	1.0	0.9	0.7	0.6	0.4	0.2	0.0	0.0	0.0	0.0
167.5°	0.7	0.7	0.6	0.5	0.4	0.2	0.1	0.0	0.0	0.0	0.0
170°	0.5	0.5	0.4	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0
172.5°	0.3	0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.1	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)