

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: G1-1710-337-5

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

Test Date: 01/16/18



Test Information

Test Method: LM-79-08
Report Number: G1-1710-337-5
Test Lab: INNOVATION CENTER(G1)
Test Date: 01/16/18
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: B95-HE-BLK-LD4-8W-40-CL-120-EDC1
Description: VR 2000 BRICK LED WITH CLEAR LENS & HORIZONTAL EYELID FLAT BLACK.
Light Source: (56) NICHIA 4000K LEDS
1FS402256M8404
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER @ 150mA
OT25UNVDIM1F0150

Summary

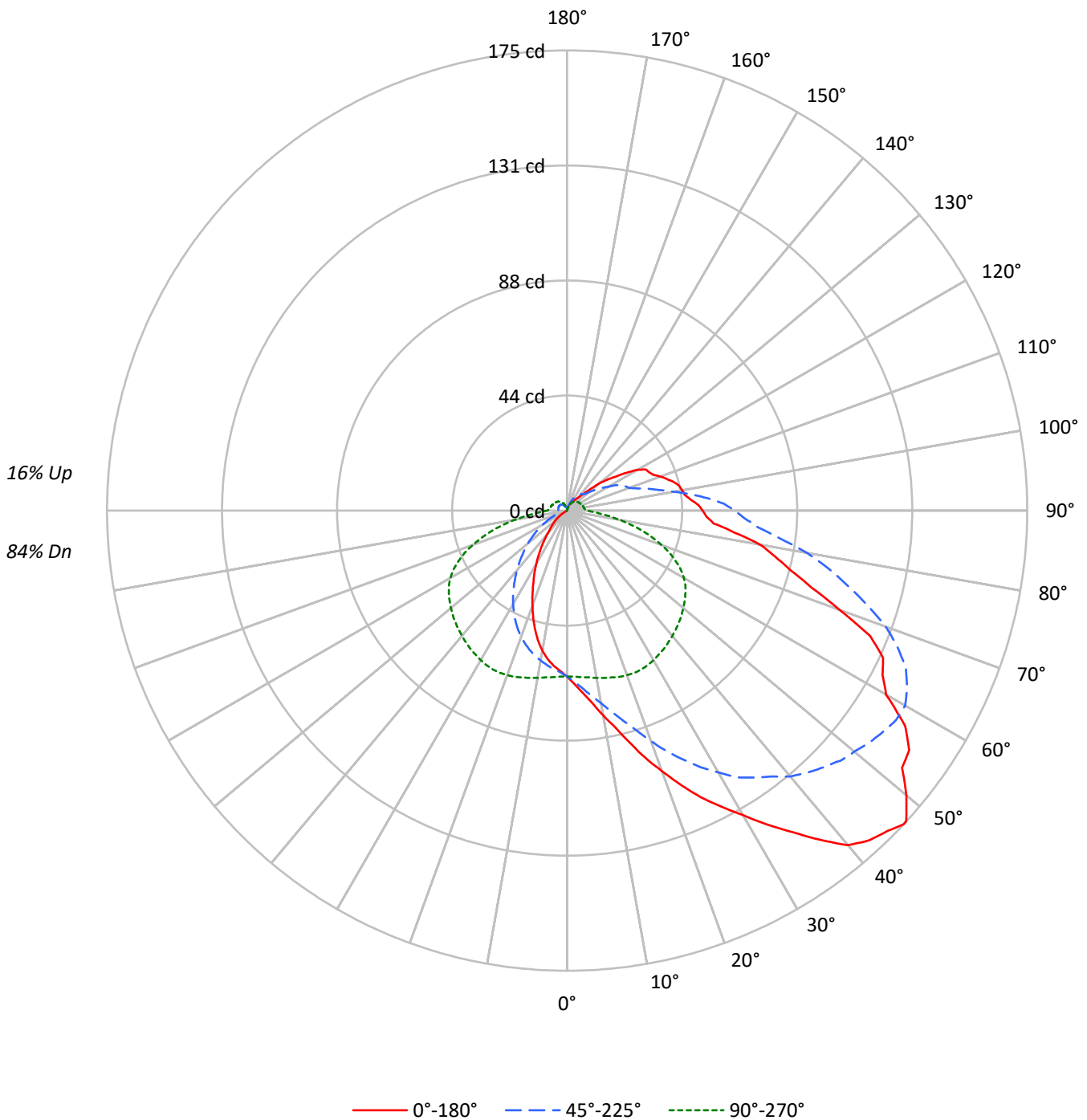
Lumens per Lamp: N/A
Luminaire Lumens: 462.2 lumens
Efficiency: N/A
Efficacy: 58.8 lumens/watt
Spacing Criteria (0/90/45): 2.02 / 1.53 / 2.01
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 0.35' x H: 0.29')
CIE Type: Semi-Direct

Input Watts (W): 7.86
Input Voltage (V): 120.1
Input Current (Ain): 0.0667
Voltage Rise (V): NR
Power Factor: 0.9867
Total Harmonic Distortion (THDi): 10.2%
Frequency (hertz): 60
Stabilization Time: 0.5 HR
Operation Time: 7.0 HR
Ambient Temperature (°C): 24.5
Test Distance: 25 FT

TEST NUMBER: G1-1710-337-5

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

Luminous Intensity Polar Plot





TEST NUMBER: G1-1710-337-5

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

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	111	111	111	111	102	102	102	95	95	95	88	88	88	84
1	101	95	89	84	97	91	86	81	84	80	76	77	74	71	71	68	66	63
2	90	80	72	65	86	77	69	63	71	64	59	65	60	55	60	55	52	48
3	81	69	59	52	77	66	57	50	61	53	47	56	49	44	51	46	42	39
4	73	60	50	42	70	57	48	41	53	45	39	48	42	36	44	39	34	31
5	67	53	42	35	63	50	41	34	46	38	32	43	36	31	39	33	29	26
6	61	47	37	30	58	45	36	29	41	33	27	38	31	26	35	29	25	22
7	56	42	32	26	54	40	31	25	37	29	24	34	28	22	32	26	21	19
8	52	38	29	22	50	36	28	22	34	26	21	31	25	20	29	23	19	16
9	49	34	26	20	46	33	25	19	31	23	18	29	22	17	26	21	16	14
10	45	31	23	18	43	30	22	17	28	21	16	26	20	16	24	19	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2877	2877	2877
5°	2975	2803	2527
10°	3197	2776	2187
15°	3522	2775	1813
20°	3934	2787	1437
25°	4372	2787	1105
30°	4770	2761	838
35°	5267	2735	611
40°	5845	2708	415
45°	6092	2695	293
50°	6028	2690	204
55°	5800	2686	117
60°	5265	2661	38
65°	5171	2538	0
70°	4498	2306	0
75°	3810	1974	0
80°	3454	1523	0
85°	2808	1063	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	6.2	1.3
10°-20°	19.4	4.2
20°-30°	34.0	7.3
30°-40°	48.6	10.5
40°-50°	61.6	13.3
50°-60°	67.5	14.6
60°-70°	65.0	14.1
70°-80°	52.3	11.3
80°-90°	35.9	7.8
90°-100°	25.3	5.5
100°-110°	17.3	3.8
110°-120°	12.5	2.7
120°-130°	8.1	1.8
130°-140°	4.5	1.0
140°-150°	2.6	0.6
150°-160°	1.2	0.3
160°-170°	0.3	0.1
170°-180°	0.0	0.0
0°-30°	59.6	12.9
0°-40°	108.2	23.4
0°-60°	237.2	51.3
0°-90°	390.4	84.5
90°-120°	55.1	11.9
90°-150°	70.3	15.2
90°-180°	72.0	15.6
0°-180°	462.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	63	63	63	63	63	
5°	70	68	64	60	59	7
15°	91	83	66	55	47	26
25°	120	104	67	46	30	56
35°	149	124	64	35	17	94
45°	172	138	60	24	8	133
55°	159	147	55	15	3	140
65°	133	142	46	7	0	128
75°	88	110	30	3	0	95
85°	56	73	12	3	0	50
90°	52	64	8	3	0	28
95°	47	54	7	3	0	38
105°	42	32	6	4	0	44
115°	34	23	6	4	0	34
125°	22	14	5	4	0	21
135°	9	9	5	3	0	8
145°	5	7	4	3	0	3
155°	3	4	3	2	0	1
165°	2	2	1	1	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	



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

CANDELA DISTRIBUTION (FULL):

	0°	3°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1
2.5°	66.1	66.2	66.2	66.1	65.8	65.6	65.2	64.8	64.5	64.0	63.5
5°	69.7	69.7	69.9	69.7	69.1	68.5	67.9	67.0	66.1	65.0	64.0
7.5°	73.9	74.0	74.0	73.7	73.0	72.1	71.0	69.5	68.0	66.4	64.8
10°	79.1	78.9	78.7	78.5	77.6	76.2	74.4	72.4	70.1	67.9	65.6
12.5°	84.4	84.7	84.6	84.1	83.0	80.7	78.3	75.4	72.4	69.5	66.6
15°	91.1	91.0	91.4	90.6	88.8	85.7	82.8	78.8	75.0	71.0	67.4
17.5°	98.5	98.6	98.3	97.8	95.2	92.0	87.6	82.8	77.8	72.6	68.3
20°	105.4	105.8	105.2	104.3	101.8	98.5	93.3	87.0	80.4	74.4	69.0
22.5°	112.8	113.1	112.7	111.3	108.7	104.8	99.1	91.5	83.8	76.0	69.5
25°	120.3	120.0	119.5	118.5	116.0	111.5	104.5	96.5	86.9	77.5	69.9
27.5°	126.9	126.8	126.9	125.1	122.2	117.7	110.0	100.9	90.0	79.1	70.0
30°	133.7	134.0	133.9	131.8	128.7	122.5	115.0	105.4	93.0	80.4	69.9
32.5°	141.6	141.5	141.2	138.7	134.8	127.8	120.3	109.0	95.8	81.7	69.6
35°	149.2	149.0	148.6	146.3	141.6	133.3	123.9	112.9	98.2	82.7	69.3
37.5°	157.8	157.2	157.0	153.7	147.8	138.9	127.5	116.1	100.8	83.7	68.9
40°	166.1	165.9	165.4	161.8	154.5	143.9	132.0	118.4	102.7	84.6	68.5
42.5°	170.1	170.7	170.6	167.2	160.5	148.3	135.2	121.4	104.9	85.7	68.0
45°	172.3	173.0	173.2	169.9	164.2	153.3	138.0	123.4	107.2	86.9	67.6
47°	174.9	174.9	174.9	171.9	165.9	154.9	140.1	124.9	108.5	87.6	66.9
47.5°	174.9	175.0	175.0	172.7	166.3	155.3	140.9	125.5	108.6	87.6	66.8
50°	168.4	168.2	168.7	171.5	167.0	156.2	142.6	126.7	108.9	88.0	66.1
52.5°	160.6	160.1	160.8	162.0	166.2	157.0	144.9	128.1	109.4	88.4	65.4
55°	158.8	159.2	159.5	157.6	158.2	158.3	146.7	130.5	110.5	88.7	64.6
57.5°	152.4	152.8	153.8	156.4	152.5	156.2	148.3	132.8	112.0	89.2	63.6
60°	140.1	140.6	141.8	147.1	150.7	148.3	148.4	133.9	113.1	89.2	62.2
62.5°	135.2	135.4	135.3	136.0	143.9	142.8	145.8	133.0	112.8	87.9	60.2
65°	132.6	132.3	132.6	132.6	135.7	141.1	142.1	132.7	111.7	85.2	57.3
67.5°	124.7	125.2	125.8	128.1	129.8	136.5	136.1	132.0	111.0	82.8	53.7
70°	110.1	110.5	112.0	119.6	122.4	125.8	128.9	128.9	109.2	79.9	49.7
72.5°	97.5	97.6	98.6	106.2	112.9	113.1	119.7	121.3	104.7	75.0	45.2
75°	88.1	88.6	89.1	95.2	106.1	105.5	110.5	113.0	98.6	69.7	40.5
77.5°	81.0	80.7	81.7	87.0	95.7	99.6	101.7	103.9	92.1	63.9	35.2
80°	74.6	74.5	75.5	80.4	85.6	92.0	92.5	94.5	85.8	58.3	29.9
82.5°	64.2	64.7	65.3	72.9	76.1	82.5	81.8	84.6	78.3	51.8	25.0
85°	55.9	55.9	56.6	64.8	68.6	72.7	72.8	75.2	69.1	44.8	20.1
87.5°	53.1	53.0	53.5	59.1	65.8	67.3	67.5	67.6	60.6	37.7	15.8
90°	51.5	51.7	52.1	57.0	64.1	64.2	63.7	62.1	53.7	32.3	12.3
92.5°	49.9	50.1	50.6	55.3	61.1	61.1	59.6	56.1	46.7	27.8	10.7
95°	47.2	47.3	47.7	51.9	55.4	55.9	53.7	49.1	39.6	23.6	10.0
97.5°	45.2	45.2	45.7	48.7	49.8	49.3	47.2	41.9	33.9	21.4	9.4
100°	44.4	44.3	44.4	45.5	45.2	43.8	41.1	36.6	30.5	20.3	9.1
102.5°	43.6	43.4	43.1	42.7	41.3	39.2	35.9	32.2	28.0	19.0	8.9
105°	42.0	41.9	41.4	39.6	37.5	34.7	32.0	29.4	25.6	17.5	8.5
107.5°	39.8	39.4	39.0	35.6	32.7	29.4	27.9	26.3	23.2	16.2	8.2



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CANDELA DISTRIBUTION (continued):

	0°	3°	5°	15°	25°	35°	45°	55°	65°	75°	85°
110°	37.8	37.2	37.0	33.1	29.2	26.3	25.1	23.6	20.9	14.7	7.8
112.5°	35.5	35.2	35.1	32.2	27.8	25.1	24.1	22.5	19.5	13.5	7.3
115°	34.4	34.2	34.1	32.0	26.9	24.1	23.2	21.7	18.6	12.8	7.0
117.5°	33.8	33.7	33.3	30.6	25.1	21.8	20.9	19.5	16.9	11.8	6.8
120°	31.0	31.0	30.8	27.9	22.4	19.2	18.2	17.0	15.0	10.7	6.5
122.5°	26.8	26.6	26.6	25.2	20.2	17.0	16.2	15.3	13.3	9.7	6.2
125°	22.5	22.6	22.6	22.1	18.7	15.2	14.4	13.6	12.0	8.9	6.0
127.5°	19.3	19.3	19.4	18.9	16.9	13.6	12.5	12.0	10.7	8.2	5.7
130°	16.2	15.9	16.0	15.8	14.6	12.0	10.9	10.4	9.5	7.5	5.5
132.5°	12.4	12.4	12.4	12.4	12.1	10.5	9.5	9.4	8.7	6.9	5.2
135°	9.2	9.2	9.4	9.7	10.0	9.6	8.8	8.8	8.1	6.5	5.0
137.5°	7.3	7.3	7.3	7.8	8.4	8.7	8.4	8.4	7.6	6.2	4.8
140°	6.2	6.1	6.2	6.6	7.3	7.8	8.1	8.0	7.2	5.8	4.6
142.5°	5.4	5.4	5.5	5.9	6.6	7.2	7.6	7.6	6.7	5.5	4.4
145°	4.8	4.9	4.9	5.4	6.1	6.7	7.1	7.1	6.2	5.1	4.2
147.5°	4.4	4.4	4.4	4.9	5.6	6.1	6.5	6.4	5.7	4.7	3.8
150°	3.9	4.0	4.0	4.5	5.1	5.6	5.9	5.7	5.0	4.2	3.5
152.5°	3.6	3.6	3.7	4.0	4.6	5.0	5.1	4.9	4.3	3.7	3.2
155°	3.2	3.2	3.3	3.6	4.0	4.3	4.3	4.1	3.7	3.2	2.8
157.5°	2.8	2.8	2.9	3.1	3.4	3.6	3.5	3.3	3.0	2.6	2.4
160°	2.4	2.4	2.5	2.7	2.8	2.9	2.8	2.7	2.4	2.1	2.0
162.5°	2.0	2.0	2.1	2.2	2.3	2.3	2.2	2.1	1.9	1.7	1.6
165°	1.7	1.6	1.7	1.7	1.8	1.8	1.7	1.5	1.4	1.3	1.2
167.5°	1.3	1.2	1.3	1.3	1.3	1.3	1.2	1.1	1.0	0.9	0.9
170°	0.8	0.8	0.9	0.9	0.9	0.8	0.7	0.7	0.6	0.6	0.6
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°	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1	63.1
2.5°	63.2	63.1	62.6	62.2	61.8	61.5	61.3	61.1	61.1	61.0	61.0
5°	63.6	63.2	62.3	61.5	60.9	60.4	59.9	59.5	59.3	59.2	59.2
7.5°	64.0	63.3	62.1	61.1	60.1	59.2	58.4	57.6	57.2	56.9	56.9
10°	64.6	63.7	62.1	60.8	59.4	57.9	56.6	55.4	54.7	54.1	54.1
12.5°	65.2	64.0	62.2	60.4	58.5	56.5	54.5	52.7	51.5	50.8	50.8
15°	65.7	64.4	62.1	59.9	57.5	54.9	52.2	49.7	48.1	47.2	46.9
17.5°	66.3	64.6	61.9	59.5	56.4	53.1	49.5	46.4	44.2	43.2	42.9
20°	66.6	64.6	61.7	58.9	55.2	51.1	46.7	43.0	40.1	38.7	38.5
22.5°	66.8	64.4	61.3	58.2	53.9	48.9	43.7	39.2	36.0	34.5	34.4
25°	66.7	64.1	60.7	57.3	52.2	46.4	40.3	35.5	32.3	30.7	30.4
27.5°	66.3	63.5	60.0	56.1	50.5	43.8	37.3	32.1	28.6	27.0	26.9
30°	65.7	62.7	58.9	54.8	48.5	41.1	34.1	28.8	25.2	23.7	23.5
32.5°	64.9	61.6	57.8	53.3	46.4	38.3	31.1	25.6	22.0	20.4	20.3
35°	64.2	60.4	56.5	51.6	43.9	35.4	28.1	22.6	19.1	17.4	17.3
37.5°	63.2	59.2	55.0	49.8	41.3	32.5	25.1	19.7	16.2	14.6	14.3
40°	62.2	58.0	53.5	47.7	38.8	29.7	22.5	17.0	13.5	12.0	11.8
42.5°	61.2	56.7	51.9	45.6	36.1	26.9	19.8	14.5	11.2	9.9	9.8
45°	60.1	55.3	50.0	43.4	33.4	24.3	17.3	12.2	9.2	8.3	8.3
47°	59.2	54.0	48.5	41.5	31.4	22.4	15.5	10.7	8.1	7.3	7.2
47.5°	58.9	53.8	48.2	41.0	30.9	22.0	15.1	10.2	7.8	7.0	6.9
50°	57.7	52.2	46.1	38.6	28.4	19.5	12.9	8.5	6.5	5.8	5.7
52.5°	56.4	50.6	43.9	36.2	25.8	17.1	11.0	7.1	5.1	4.5	4.4
55°	54.9	48.8	41.6	33.7	23.3	14.9	9.2	5.7	3.8	3.2	3.2
57.5°	53.3	46.8	39.1	31.1	20.9	12.9	7.6	4.4	2.7	2.1	2.0
60°	51.3	44.6	36.4	28.3	18.4	10.8	6.0	3.1	1.5	1.0	1.0
62.5°	48.8	41.8	33.4	25.5	15.8	8.9	4.7	2.0	0.5	0.2	0.1
65°	45.6	38.8	30.3	22.5	13.3	7.2	3.4	1.1	0.0	0.0	0.0
67.5°	42.3	35.4	27.0	19.3	10.7	5.7	2.4	0.4	0.0	0.0	0.0
70°	38.1	31.8	23.4	16.0	8.6	4.4	1.8	0.3	0.0	0.0	0.0
72.5°	33.9	27.6	19.6	13.0	6.7	3.5	1.6	0.3	0.0	0.0	0.0
75°	29.5	23.7	16.1	10.0	5.4	3.4	1.6	0.3	0.0	0.0	0.0
77.5°	24.8	19.5	12.9	7.8	5.1	3.4	1.5	0.3	0.0	0.0	0.0
80°	20.2	15.9	10.2	6.7	5.0	3.3	1.5	0.4	0.0	0.0	0.0
82.5°	16.0	12.0	8.3	6.4	4.9	3.3	1.5	0.4	0.0	0.0	0.0
85°	12.2	9.4	7.4	6.3	4.9	3.3	1.5	0.5	0.0	0.0	0.0
87.5°	9.2	7.6	7.2	6.2	4.9	3.3	1.5	0.5	0.0	0.0	0.0
90°	7.6	7.1	7.0	6.1	4.9	3.3	1.5	0.5	0.0	0.0	0.0
92.5°	7.0	6.9	6.8	6.1	4.9	3.3	1.6	0.6	0.0	0.0	0.0
95°	6.7	6.8	6.7	6.1	5.0	3.4	1.6	0.6	0.0	0.0	0.0
97.5°	6.5	6.6	6.7	6.1	5.0	3.4	1.6	0.6	0.0	0.0	0.0
100°	6.4	6.6	6.7	6.1	5.0	3.4	1.7	0.6	0.0	0.0	0.0
102.5°	6.4	6.5	6.6	6.0	5.0	3.4	1.7	0.6	0.0	0.0	0.0
105°	6.3	6.4	6.5	5.9	4.9	3.5	1.8	0.6	0.0	0.0	0.0
107.5°	6.3	6.3	6.4	5.8	4.9	3.5	1.8	0.6	0.0	0.0	0.0



TEST NUMBER: G1-1710-337-5

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

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	6.1	6.2	6.4	5.8	4.9	3.5	1.9	0.6	0.0	0.0	0.0
112.5°	5.9	6.1	6.3	5.8	4.9	3.5	1.9	0.6	0.0	0.0	0.0
115°	5.8	5.9	6.2	5.8	4.9	3.5	2.0	0.6	0.0	0.0	0.0
117.5°	5.7	5.9	6.2	5.8	4.9	3.5	2.0	0.7	0.0	0.0	0.0
120°	5.6	5.8	6.1	5.7	4.8	3.5	2.0	0.7	0.0	0.0	0.0
122.5°	5.5	5.7	6.1	5.7	4.7	3.5	2.1	0.7	0.0	0.0	0.0
125°	5.4	5.6	6.0	5.6	4.7	3.5	2.1	0.7	0.0	0.0	0.0
127.5°	5.3	5.5	5.9	5.5	4.6	3.4	2.1	0.7	0.0	0.0	0.0
130°	5.1	5.4	5.7	5.4	4.5	3.4	2.1	0.7	0.0	0.0	0.0
132.5°	5.0	5.2	5.6	5.2	4.3	3.3	2.1	0.7	0.0	0.0	0.0
135°	4.8	5.0	5.4	5.1	4.2	3.2	2.0	0.7	0.0	0.0	0.0
137.5°	4.7	4.9	5.3	4.9	4.2	3.1	2.0	0.7	0.0	0.0	0.0
140°	4.5	4.7	5.0	4.8	4.1	3.0	1.9	0.7	0.1	0.0	0.0
142.5°	4.3	4.4	4.8	4.6	3.8	2.8	1.8	0.7	0.1	0.0	0.0
145°	4.0	4.1	4.5	4.4	3.6	2.6	1.7	0.7	0.1	0.0	0.0
147.5°	3.7	3.8	4.2	4.0	3.3	2.5	1.5	0.6	0.1	0.0	0.0
150°	3.5	3.5	3.8	3.5	3.0	2.2	1.4	0.6	0.1	0.0	0.0
152.5°	3.2	3.2	3.3	3.1	2.7	2.0	1.2	0.5	0.1	0.0	0.0
155°	2.8	2.8	2.8	2.7	2.3	1.7	1.0	0.4	0.0	0.0	0.0
157.5°	2.4	2.4	2.4	2.3	1.9	1.4	0.9	0.3	0.0	0.0	0.0
160°	2.0	2.0	2.0	1.9	1.6	1.2	0.7	0.2	0.0	0.0	0.0
162.5°	1.6	1.6	1.6	1.5	1.3	0.9	0.5	0.2	0.0	0.0	0.0
165°	1.2	1.3	1.2	1.1	0.9	0.7	0.4	0.1	0.0	0.0	0.0
167.5°	0.9	0.9	0.9	0.8	0.6	0.4	0.2	0.1	0.0	0.0	0.0
170°	0.6	0.6	0.6	0.5	0.4	0.2	0.1	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)