

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: G1-1710-337-13

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

Test Date: 11/08/17



Test Information

Test Method: LM-79-08
Report Number: G1-1710-337-13
Test Lab: INNOVATION CENTER(G1)
Test Date: 11/08/17
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: B95-PP-BLK-LD4-8W-40-OPL-120-EDC1
Description: VR 2000 BRICK LED WITH OPAL LENS & PAINTED PERIMETER FLAT BLACK.
Light Source: (56) NICHIA 4000K LEDS
1FS402256M8404
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER @ 150mA
OT25UNVDIM1F0150

Summary

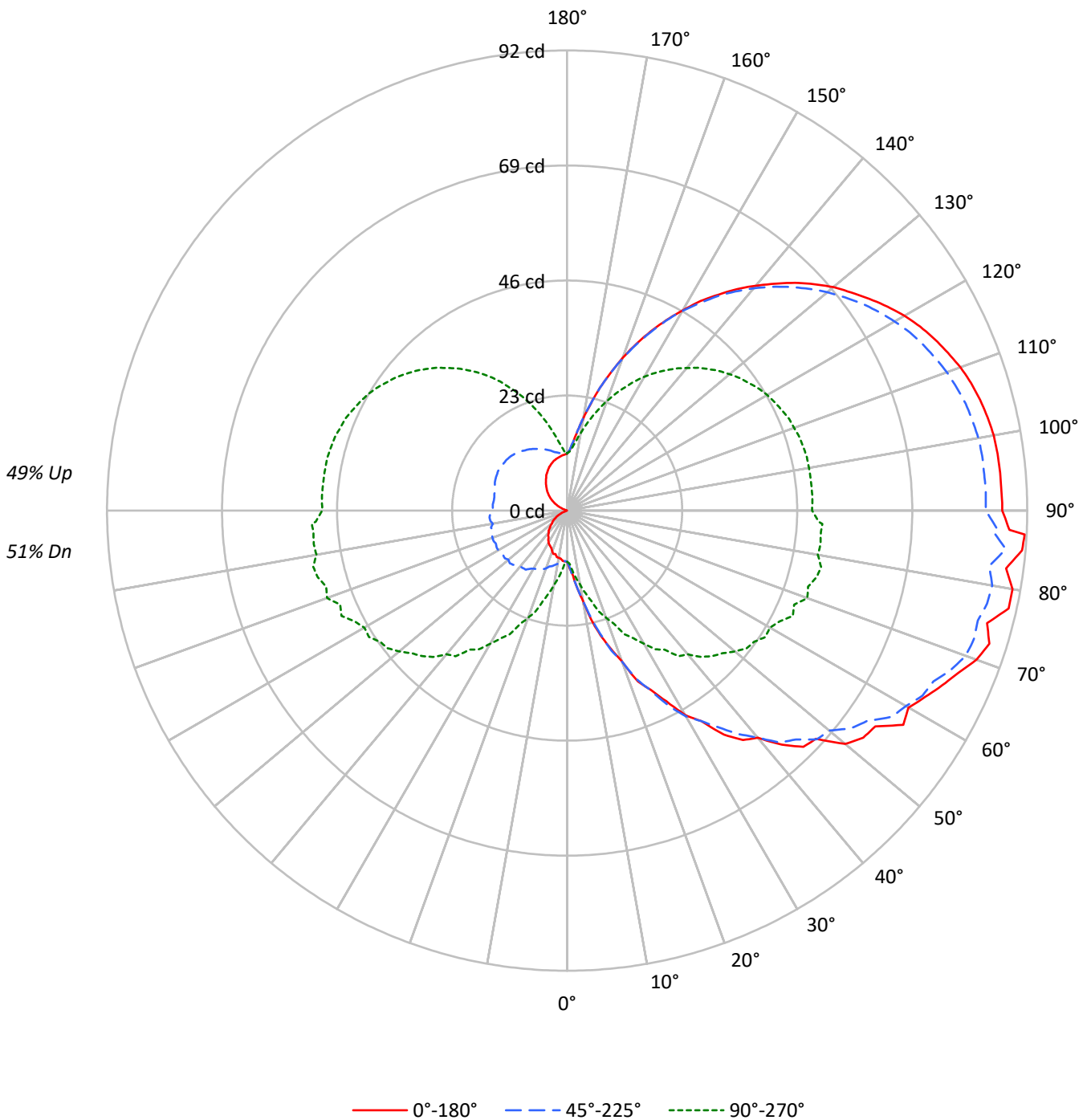
Lumens per Lamp: N/A
Luminaire Lumens: 513.6 lumens
Efficiency: N/A
Efficacy: 65.8 lumens/watt
Spacing Criteria (0/90/45): 3.46 / 3.7 / 3.6
Luminous Opening: Rectangular w/ Sides (W: 0.35' x L: 0.29' x H: 0.67')
CIE Type: General Diffuse

Input Watts (W): 7.8
Input Voltage (V): 120.1
Input Current (A_{in}): 0.0662
Voltage Rise (V): NR
Power Factor: 0.9868
Total Harmonic Distortion (THDi): 10.4%
Frequency (hertz): 60
Stabilization Time: 0.5 HR
Operation Time: 7.0 HR
Ambient Temperature (°C): 25.5
Test Distance: 25 FT

TEST NUMBER: G1-1710-337-13

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

Luminous Intensity Polar Plot





TEST NUMBER: G1-1710-337-13

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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	93	86	80	75	85	79	74	69	65	61	58	53	50	47	42	39	37	32
2	82	72	64	57	75	66	59	52	54	49	44	44	39	35	34	30	27	22
3	74	62	52	45	67	56	48	41	46	40	34	37	32	28	28	24	21	17
4	67	53	44	36	60	49	40	33	40	33	28	32	26	22	24	20	17	13
5	61	47	37	30	55	43	34	28	35	28	23	28	22	18	21	17	14	10
6	55	42	32	25	50	38	29	23	31	24	19	25	19	15	19	15	11	8
7	51	37	28	22	46	34	26	20	28	21	16	22	17	13	17	13	10	7
8	47	33	25	19	43	31	23	17	25	19	14	20	15	11	15	11	8	6
9	44	30	22	16	40	28	20	15	23	17	12	18	13	10	14	10	7	5
10	41	27	20	14	37	25	18	13	21	15	11	17	12	9	13	9	6	4

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	1063	1063	1063
5°	1133	1078	880
10°	1380	1200	724
15°	1726	1341	602
20°	1943	1500	527
25°	2198	1672	440
30°	2448	1770	384
35°	2676	1860	318
40°	2764	1978	266
45°	2996	2101	220
50°	3160	2189	170
55°	3204	2251	141
60°	3312	2289	101
65°	3455	2438	58
70°	3645	2523	17
75°	3671	2589	0
80°	3885	2616	0
85°	4024	2703	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1.2	0.2
10°-20°	5.3	1.0
20°-30°	12.1	2.4
30°-40°	20.7	4.0
40°-50°	30.1	5.9
50°-60°	39.1	7.6
60°-70°	46.4	9.0
70°-80°	51.4	10.0
80°-90°	53.4	10.4
90°-100°	51.8	10.1
100°-110°	49.7	9.7
110°-120°	45.1	8.8
120°-130°	38.2	7.4
130°-140°	29.7	5.8
140°-150°	20.6	4.0
150°-160°	12.1	2.4
160°-170°	5.4	1.1
170°-180°	1.3	0.3
0°-30°	18.6	3.6
0°-40°	39.3	7.6
0°-60°	108.5	21.1
0°-90°	259.7	50.6
90°-120°	146.6	28.5
90°-150°	235.0	45.8
90°-180°	254.0	49.5
0°-180°	513.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	10	10	10	10	10	
5°	13	13	12	10	10	1
15°	26	25	19	12	9	7
25°	40	40	27	13	8	19
35°	55	53	34	14	6	34
45°	67	65	41	15	5	51
55°	75	73	46	16	3	69
65°	83	81	50	16	1	82
75°	87	85	52	15	0	94
85°	91	88	51	16	0	74
90°	87	84	49	15	0	48
95°	87	84	49	15	0	71
105°	86	82	49	15	0	90
115°	81	78	47	16	2	80
125°	74	72	44	16	4	66
135°	64	63	40	16	6	50
145°	53	52	34	15	7	33
155°	40	39	27	14	9	18
165°	25	25	20	12	10	7
175°	14	14	13	11	11	1
180°	11	11	11	11	11	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
2.5°	11.5	11.2	11.3	11.2	11.2	11.3	11.1	11.0	10.9	10.6	10.6
5°	13.0	13.3	13.4	13.3	13.2	13.2	13.0	12.7	12.1	12.1	12.0
7.5°	15.8	15.5	15.6	15.8	15.8	15.6	15.4	14.8	14.2	13.5	13.6
10°	18.3	18.6	18.3	19.1	18.9	18.3	18.3	17.5	16.3	15.2	15.1
12.5°	22.4	22.1	21.9	22.1	22.5	21.9	21.2	20.5	18.9	17.5	16.9
15°	25.8	25.5	25.4	25.3	25.9	25.4	24.2	22.8	21.4	19.6	18.7
17.5°	28.9	29.2	28.7	29.1	29.3	29.3	27.7	25.7	23.6	21.6	21.2
20°	32.1	32.8	33.1	32.9	33.9	32.2	31.6	29.4	26.4	23.9	22.8
22.5°	37.0	36.1	36.9	36.8	36.5	36.6	35.2	32.1	29.4	25.7	24.5
25°	39.5	39.7	39.4	40.3	40.8	39.7	37.4	35.0	31.7	28.8	27.3
27.5°	43.0	43.9	44.1	43.8	44.3	44.0	41.9	38.0	34.6	30.3	28.8
30°	47.2	47.2	46.1	47.4	47.3	47.5	44.3	40.5	36.7	32.5	30.7
32.5°	49.9	50.3	50.3	50.5	51.4	49.9	47.6	44.0	39.1	34.6	32.9
35°	54.7	53.0	54.1	54.2	54.3	52.9	50.9	46.7	41.4	36.5	33.9
37.5°	57.8	56.7	55.6	55.7	56.6	56.3	53.4	50.0	43.7	38.5	36.7
40°	59.3	59.5	59.9	59.0	59.4	59.2	56.2	51.2	46.0	40.8	37.5
42.5°	63.5	64.0	61.3	63.1	62.3	62.9	59.1	54.1	47.3	42.4	39.7
45°	66.8	65.4	65.9	66.1	67.0	64.7	62.2	55.5	49.9	42.7	41.1
47.5°	67.5	68.1	67.6	66.7	68.5	67.7	63.7	57.7	51.5	45.6	42.2
50°	72.6	72.2	69.0	69.1	70.3	68.4	66.0	61.5	52.8	46.5	43.8
52.5°	74.6	73.9	72.6	73.3	73.3	71.5	68.2	61.5	55.3	46.9	45.2
55°	75.2	75.8	73.5	75.5	76.4	73.3	69.9	65.2	55.8	48.7	45.7
57.5°	79.7	78.4	76.4	75.9	77.5	76.8	71.3	66.2	57.8	50.7	47.0
60°	78.8	79.7	79.4	77.6	80.6	78.2	74.9	67.2	58.3	50.4	46.8
62.5°	80.7	80.7	80.3	80.8	82.1	80.1	75.4	68.9	60.2	52.1	47.9
65°	82.7	82.3	81.8	81.4	82.3	80.8	77.6	69.1	61.4	52.4	49.8
67.5°	84.7	84.8	83.1	82.7	83.4	83.1	76.5	71.3	63.0	53.0	49.1
70°	87.1	86.0	84.4	83.9	86.2	84.8	77.9	72.2	62.4	52.9	51.1
72.5°	88.5	87.4	85.6	85.0	85.8	85.3	78.5	72.9	63.2	54.3	50.5
75°	86.9	89.3	85.7	86.4	88.3	85.0	80.8	74.5	65.1	53.8	51.6
77.5°	90.4	89.9	85.2	86.1	87.1	86.0	81.9	75.3	65.6	54.8	52.0
80°	90.4	90.2	86.2	85.2	86.5	86.3	82.9	73.3	65.9	55.1	50.9
82.5°	88.5	89.4	86.1	86.9	88.0	85.1	82.2	75.5	65.0	54.6	51.1
85°	91.3	90.2	88.2	85.7	86.9	88.0	80.7	73.4	65.2	55.0	50.9
87°	91.6	90.4	87.7	87.1	88.2	85.5	82.5	76.2	64.7	56.1	51.1
87.5°	88.5	88.1	86.3	87.2	90.0	86.1	81.8	75.3	64.6	54.6	50.3
90°	87.0	86.7	84.8	84.3	85.4	83.7	79.1	72.0	62.6	52.7	49.0
91°	87.0	86.7	84.8	84.3	85.4	83.7	79.2	72.0	62.6	52.7	49.0
92.5°	86.9	86.7	84.8	84.3	85.4	83.8	79.2	72.0	62.6	52.7	49.1
95°	86.9	86.7	84.8	84.4	85.4	83.7	79.2	72.0	62.6	52.7	49.1
97.5°	86.8	86.6	84.7	84.3	85.3	83.7	79.1	72.0	62.6	52.8	49.1
100°	86.6	86.4	84.5	84.1	85.1	83.5	78.9	71.8	62.5	52.7	49.1
102.5°	86.1	85.9	84.1	83.7	84.7	83.0	78.6	71.5	62.3	52.7	49.1
105°	85.5	85.3	83.5	83.1	84.1	82.5	78.1	71.0	62.0	52.4	48.9



TEST NUMBER: G1-1710-337-13

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
107.5°	84.7	84.5	82.7	82.3	83.4	81.7	77.4	70.5	61.5	52.2	48.7
110°	83.7	83.5	81.8	81.5	82.4	80.8	76.5	69.7	60.9	51.7	48.3
112.5°	82.4	82.3	80.7	80.4	81.3	79.7	75.6	68.9	60.3	51.3	48.0
115°	81.1	81.0	79.4	79.1	80.0	78.5	74.5	67.9	59.5	50.7	47.4
117.5°	79.6	79.4	78.0	77.8	78.7	77.2	73.1	66.8	58.5	50.0	46.8
120°	77.9	77.7	76.3	76.2	77.1	75.6	71.6	65.5	57.4	49.2	46.2
122.5°	75.9	75.9	74.6	74.5	75.3	73.9	70.1	64.1	56.2	48.3	45.4
125°	73.8	73.9	72.5	72.6	73.5	72.1	68.3	62.5	55.0	47.3	44.4
127.5°	71.6	71.6	70.5	70.6	71.4	70.0	66.4	60.8	53.5	46.2	43.5
130°	69.5	69.2	68.3	68.6	69.3	67.9	64.5	59.0	52.0	45.0	42.4
132.5°	67.0	66.8	65.9	66.2	67.0	65.6	62.3	57.1	50.4	43.8	41.3
135°	64.4	64.2	63.4	63.8	64.5	63.2	60.0	55.0	48.6	42.3	40.0
137.5°	61.5	61.5	60.8	61.2	61.8	60.7	57.6	52.7	46.8	40.8	38.7
140°	58.7	58.7	58.1	58.5	59.2	58.0	54.9	50.5	44.9	39.3	37.2
142.5°	55.8	55.8	55.3	55.8	56.4	55.2	52.3	48.1	42.8	37.7	35.8
145°	52.7	52.7	52.3	52.8	53.4	52.3	49.5	45.5	40.7	36.0	34.2
147.5°	49.7	49.5	49.2	49.7	50.2	49.1	46.6	42.9	38.6	34.2	32.6
150°	46.2	46.3	46.2	46.6	47.1	46.1	43.7	40.4	36.3	32.3	30.9
152.5°	42.9	43.0	42.9	43.2	43.5	42.8	40.6	37.5	33.9	30.3	29.1
155°	39.5	39.5	39.6	40.0	40.3	39.3	37.4	34.6	31.5	28.4	27.1
157.5°	36.0	36.1	35.9	36.4	36.5	35.8	34.1	31.8	28.9	26.3	25.3
160°	32.5	32.5	32.4	32.8	33.0	32.3	30.9	28.9	26.6	24.3	23.3
162.5°	28.8	28.9	28.9	29.2	29.3	28.8	27.7	25.9	24.0	22.2	21.4
165°	25.4	25.4	25.4	25.6	25.8	25.4	24.5	23.1	21.6	20.0	19.5
167.5°	21.9	22.0	22.1	22.3	22.3	22.0	21.4	20.3	19.2	18.0	17.6
170°	18.8	18.9	19.0	19.2	19.2	18.9	18.6	17.9	16.9	16.1	15.8
172.5°	16.1	16.0	16.1	16.2	16.3	16.1	15.9	15.5	15.0	14.5	14.2
175°	13.7	13.7	13.8	13.9	14.0	13.8	13.6	13.5	13.2	13.0	12.8
177.5°	12.1	12.1	12.2	12.2	12.2	12.2	12.1	12.0	11.9	11.9	11.8
180°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
2.5°	10.7	10.8	10.3	10.1	10.1	10.0	10.0	10.1	9.8	10.2
5°	11.9	11.7	11.3	10.4	10.5	9.9	10.2	9.8	10.0	10.1
7.5°	13.0	12.2	12.0	11.2	10.4	10.1	9.9	9.8	9.8	9.7
10°	14.5	13.9	12.5	11.8	10.8	9.9	9.7	9.7	9.6	9.6
12.5°	16.3	15.0	13.7	12.5	11.1	10.1	9.5	9.5	9.4	9.5
15°	18.3	16.4	14.9	13.2	11.5	10.0	9.1	9.0	9.2	9.0
17.5°	19.9	18.0	15.8	14.1	11.7	10.0	8.9	8.8	9.0	9.1
20°	21.9	19.7	17.5	14.8	12.3	9.8	8.8	8.6	8.4	8.7
22.5°	24.3	21.9	18.4	15.6	12.7	9.9	8.5	8.5	8.5	8.2
25°	25.4	23.1	19.5	16.3	12.9	9.7	8.1	8.2	7.9	7.9
27.5°	27.5	24.5	21.3	17.0	13.2	9.9	7.7	7.6	7.8	7.7
30°	28.9	26.4	21.9	18.0	13.4	9.7	7.5	7.3	7.2	7.4
32.5°	30.8	27.6	23.3	18.6	13.8	9.4	7.0	7.0	6.8	7.0
35°	33.0	28.6	24.0	19.5	14.4	9.4	6.8	6.5	6.6	6.5
37.5°	34.4	30.5	25.9	20.3	14.5	9.4	6.5	6.2	6.0	6.2
40°	36.1	31.6	26.9	20.5	14.6	9.4	5.9	6.0	5.8	5.7
42.5°	37.6	33.0	27.6	21.3	14.7	9.2	5.7	5.4	5.4	5.5
45°	39.4	34.1	28.5	22.0	15.3	9.1	5.3	5.1	5.1	4.9
47.5°	40.0	35.2	29.5	22.4	15.6	8.7	4.9	4.6	4.6	4.5
50°	40.4	36.0	30.0	22.6	15.3	8.7	4.3	4.2	4.1	3.9
52.5°	42.7	37.0	31.0	23.4	15.7	8.4	3.8	3.7	3.7	3.7
55°	42.6	37.8	31.8	24.1	15.6	8.2	3.5	3.3	3.3	3.3
57.5°	43.9	38.9	32.4	24.5	16.0	7.9	3.1	2.9	2.7	2.7
60°	45.7	39.3	32.8	24.3	15.9	7.7	2.3	2.2	2.4	2.4
62.5°	46.3	39.8	32.9	24.4	15.9	7.3	2.1	1.7	1.9	1.9
65°	47.0	41.1	33.6	25.2	15.7	7.0	1.4	1.2	1.4	1.4
67.5°	47.8	40.9	33.2	25.0	15.9	6.7	0.9	0.8	1.0	1.1
70°	47.3	40.8	33.2	25.1	15.9	6.3	0.4	0.3	0.4	0.4
72.5°	47.7	41.7	33.6	24.9	15.7	6.0	0.1	0.0	0.0	0.0
75°	48.8	41.1	34.0	25.0	15.4	5.9	0.0	0.0	0.0	0.0
77.5°	48.2	41.8	34.1	25.1	15.6	5.9	0.0	0.0	0.0	0.0
80°	47.9	42.5	33.7	24.9	15.1	5.8	0.0	0.0	0.0	0.0
82.5°	48.4	41.6	34.0	25.2	15.5	5.8	0.0	0.0	0.0	0.0
85°	48.3	42.3	34.1	24.8	15.6	5.6	0.0	0.0	0.0	0.0
87°	48.5	42.0	33.6	25.1	15.4	5.9	0.0	0.0	0.0	0.0
87.5°	49.2	42.3	34.5	25.1	15.5	5.8	0.0	0.0	0.0	0.0
90°	46.3	40.1	32.7	24.2	14.9	5.8	0.0	0.0	0.0	0.0
91°	46.3	40.1	32.6	24.2	14.9	5.8	0.0	0.0	0.0	0.0
92.5°	46.3	40.1	32.6	24.1	14.9	5.8	0.0	0.0	0.0	0.0
95°	46.3	40.0	32.5	24.0	14.9	5.7	0.0	0.0	0.0	0.0
97.5°	46.4	40.1	32.6	24.0	14.8	5.7	0.0	0.0	0.0	0.0
100°	46.4	40.1	32.6	24.0	14.8	5.7	0.0	0.0	0.0	0.0
102.5°	46.3	40.1	32.6	24.1	14.9	5.7	0.0	0.0	0.0	0.0
105°	46.2	40.0	32.6	24.1	15.0	5.8	0.0	0.0	0.0	0.0



TEST NUMBER: G1-1710-337-13

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

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
107.5°	46.0	39.9	32.6	24.2	15.1	6.1	0.1	0.0	0.0	0.0
110°	45.7	39.7	32.4	24.2	15.4	6.5	0.6	0.3	0.2	0.2
112.5°	45.4	39.4	32.3	24.2	15.6	7.0	1.3	1.0	0.9	1.0
115°	44.9	39.1	32.1	24.2	15.7	7.4	1.9	1.7	1.6	1.6
117.5°	44.4	38.7	31.8	24.1	15.8	7.8	2.5	2.3	2.2	2.2
120°	43.7	38.2	31.5	23.9	15.9	8.1	3.0	2.8	2.8	2.8
122.5°	43.1	37.6	31.1	23.7	15.9	8.4	3.5	3.3	3.3	3.3
125°	42.2	36.9	30.7	23.5	15.9	8.7	4.1	3.8	3.8	3.8
127.5°	41.3	36.2	30.1	23.2	15.8	8.9	4.5	4.3	4.3	4.3
130°	40.3	35.4	29.5	22.8	15.8	9.1	5.0	4.8	4.8	4.8
132.5°	39.2	34.5	28.8	22.4	15.7	9.3	5.4	5.3	5.2	5.2
135°	38.1	33.6	28.1	22.0	15.6	9.6	5.9	5.8	5.7	5.7
137.5°	36.8	32.5	27.3	21.5	15.4	9.7	6.3	6.2	6.1	6.1
140°	35.4	31.4	26.4	20.9	15.2	9.9	6.8	6.6	6.6	6.5
142.5°	34.1	30.3	25.6	20.3	15.0	10.1	7.2	7.1	7.0	7.0
145°	32.6	29.0	24.6	19.7	14.7	10.2	7.6	7.5	7.4	7.4
147.5°	31.1	27.6	23.6	19.1	14.5	10.3	8.0	7.9	7.9	7.8
150°	29.5	26.3	22.6	18.4	14.2	10.5	8.4	8.3	8.3	8.3
152.5°	27.8	24.9	21.4	17.7	13.9	10.6	8.8	8.7	8.6	8.6
155°	26.1	23.5	20.4	17.0	13.6	10.7	9.1	9.1	9.0	9.0
157.5°	24.3	21.9	19.2	16.2	13.3	10.8	9.5	9.4	9.4	9.4
160°	22.5	20.5	18.0	15.4	13.0	10.8	9.8	9.7	9.7	9.7
162.5°	20.7	19.0	16.9	14.7	12.7	10.9	10.1	10.0	10.0	10.0
165°	18.9	17.4	15.7	14.0	12.4	11.0	10.4	10.3	10.3	10.3
167.5°	17.1	16.0	14.7	13.3	12.0	11.0	10.6	10.5	10.5	10.5
170°	15.4	14.6	13.7	12.7	11.8	11.1	10.8	10.7	10.7	10.7
172.5°	14.0	13.4	12.8	12.2	11.6	11.2	11.0	10.9	10.9	10.9
175°	12.7	12.4	12.1	11.7	11.4	11.2	11.1	11.1	11.1	11.1
177.5°	11.8	11.7	11.6	11.5	11.4	11.3	11.3	11.2	11.2	11.2
180°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4

(END OF REPORT)