

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: G1-1710-337-1

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

Test Date: 11/07/17



Test Information

Test Method: LM-79-08
Report Number: G1-1710-337-1
Test Lab: INNOVATION CENTER(G1)
Test Date: 11/07/17
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: B95-PP-BLK-LD4-8W-40-CL-120-EDC1
Description: VR 2000 BRICK LED WITH CLEAR LENS & PAINTED PERIMETER FLAT BLACK.
Light Source: (56) NICHIA 4000K LEDS
1FS402256M8404
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER @150mA
OT25UNVDIM1F0150

Summary

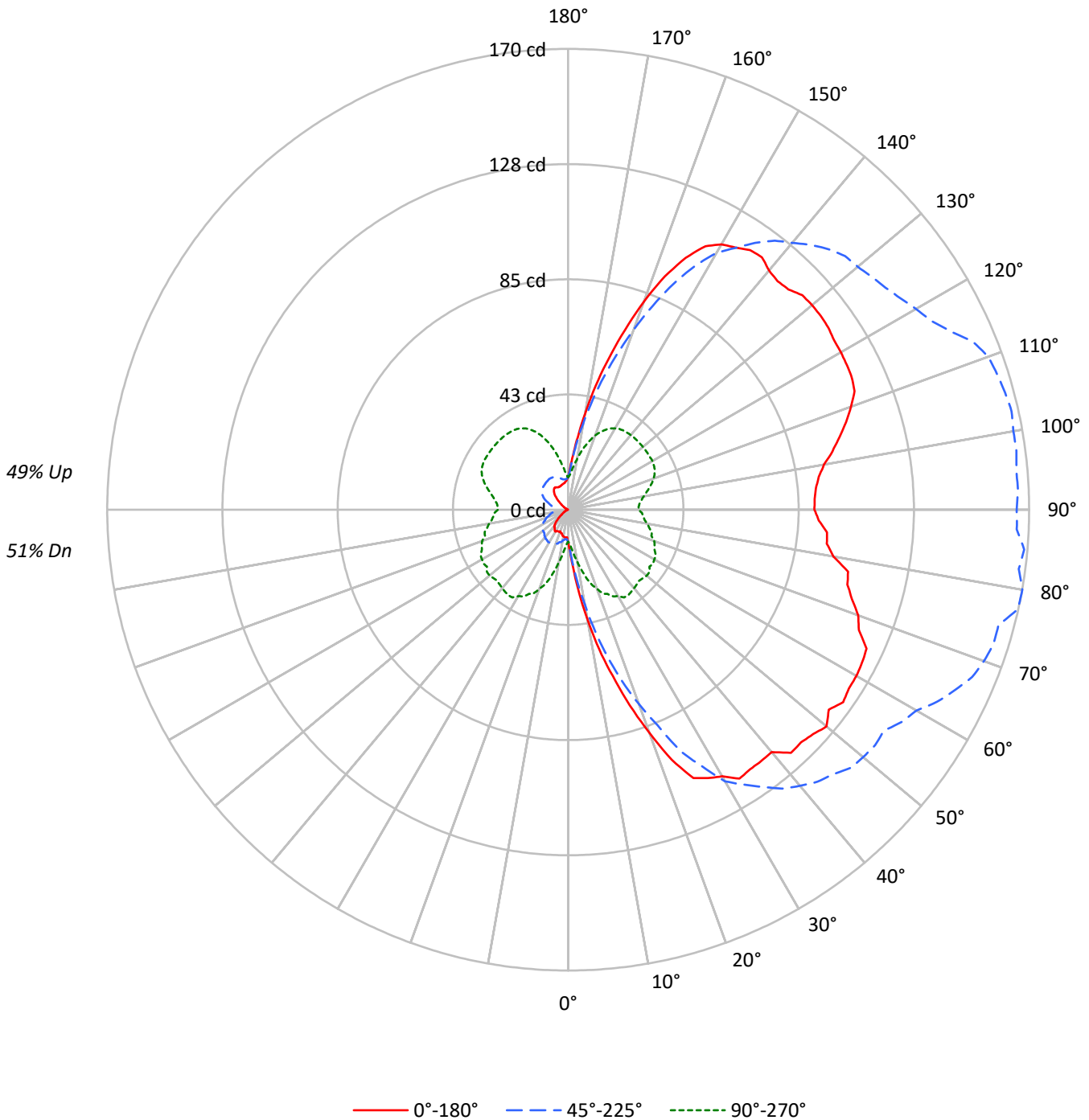
Lumens per Lamp: N/A
Luminaire Lumens: 747.9 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Spacing Criteria (0/90/45): 3.89 / 3.1 / 4.13
Luminous Opening: Rectangular w/ Sides (W: 0.35' x L: 0.29' x H: 0.67')
CIE Type: General Diffuse

Input Watts (W): 7.8
Input Voltage (V): 120.1
Input Current (Ain): 0.0662
Voltage Rise (V): NR
Power Factor: 0.9868
Total Harmonic Distortion (THDi): 10.3%
Frequency (hertz): 60
Stabilization Time: 0.5 HR
Operation Time: 7.0 HR
Ambient Temperature (°C): 25.4
Test Distance: 25 FT

TEST NUMBER: G1-1710-337-1

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

Luminous Intensity Polar Plot





TEST NUMBER: G1-1710-337-1

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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	87	81	76	85	80	75	70	67	63	59	54	51	49	43	41	39	33
2	83	73	65	59	76	67	60	54	56	50	45	45	41	37	35	32	29	24
3	75	63	54	47	68	58	50	43	48	41	36	38	33	29	30	26	23	18
4	68	55	45	38	61	50	42	35	41	35	29	33	28	24	26	22	18	14
5	62	48	39	32	56	44	36	29	36	30	24	29	24	20	22	18	15	12
6	56	43	33	27	51	39	31	25	32	26	21	26	21	17	20	16	13	10
7	52	38	29	23	47	35	27	21	29	22	18	23	18	14	18	14	11	8
8	48	34	26	20	44	31	24	18	26	20	15	21	16	12	16	12	9	7
9	44	31	23	17	40	29	21	16	24	18	13	19	14	11	15	11	8	6
10	41	28	20	15	38	26	19	14	22	16	12	18	13	9	14	10	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	1230	1230	1230
5°	1874	1302	915
10°	3115	1565	754
15°	4248	1879	602
20°	5303	2040	515
25°	6077	2100	490
30°	5892	2122	482
35°	5718	2113	421
40°	5440	1993	373
45°	5445	1892	278
50°	5415	1889	187
55°	5274	1803	119
60°	5157	1795	71
65°	5072	1718	42
70°	4763	1669	4
75°	4503	1600	0
80°	4268	1521	0
85°	4222	1471	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1.7	0.2
10°-20°	9.6	1.3
20°-30°	23.6	3.2
30°-40°	37.8	5.1
40°-50°	49.0	6.5
50°-60°	57.9	7.7
60°-70°	64.6	8.6
70°-80°	67.2	9.0
80°-90°	66.8	8.9
90°-100°	66.0	8.8
100°-110°	66.6	8.9
110°-120°	63.7	8.5
120°-130°	56.5	7.6
130°-140°	47.4	6.3
140°-150°	36.6	4.9
150°-160°	22.4	3.0
160°-170°	8.9	1.2
170°-180°	1.6	0.2
0°-30°	34.9	4.7
0°-40°	72.7	9.7
0°-60°	179.7	24.0
0°-90°	378.2	50.6
90°-120°	196.3	26.2
90°-150°	336.8	45.0
90°-180°	370.0	49.5
0°-180°	747.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	12	12	12	12	12	
5°	22	20	14	11	10	3
15°	64	56	26	12	9	19
25°	109	98	34	14	9	49
35°	117	125	38	14	9	73
45°	121	138	37	12	6	94
55°	124	142	37	11	3	110
65°	121	157	35	10	1	119
75°	107	164	32	7	0	113
85°	96	169	28	5	0	78
90°	91	165	26	5	0	50
95°	92	166	26	5	0	76
105°	104	167	31	7	0	109
115°	115	156	35	10	1	114
125°	117	143	36	12	2	105
135°	115	136	36	13	6	90
145°	117	120	36	13	9	73
155°	102	92	32	13	9	47
165°	58	51	24	12	9	17
175°	20	19	14	11	10	2
180°	12	12	12	12	12	



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

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
2.5°	15.4	15.8	15.8	15.0	14.9	14.6	14.7	14.1	13.4	12.7	12.6
5°	21.5	22.0	21.2	21.3	20.7	20.3	19.2	17.8	16.6	15.2	14.5
7.5°	31.0	30.2	30.1	29.4	28.5	27.5	25.8	22.7	20.6	17.9	17.0
10°	41.3	40.5	39.7	39.5	38.0	35.7	32.9	29.4	24.7	21.6	19.7
12.5°	52.7	51.1	52.0	51.3	49.0	45.9	41.5	35.9	29.6	25.2	22.8
15°	63.5	62.6	63.6	63.6	61.3	56.2	48.6	42.1	34.4	28.6	26.2
17.5°	75.7	76.5	77.0	75.8	72.1	66.5	58.5	49.8	40.6	31.9	29.0
20°	87.6	87.4	88.3	88.4	83.7	76.4	66.9	55.4	44.2	34.7	31.0
22.5°	99.9	98.5	99.0	98.9	95.8	86.1	75.1	61.2	47.8	38.1	33.5
25°	109.2	107.5	108.7	107.9	106.4	98.5	83.3	67.8	51.3	39.4	34.3
27.5°	111.6	111.9	116.9	118.5	114.1	106.6	89.7	72.2	54.3	42.1	36.1
30°	113.6	115.4	120.3	123.6	123.8	115.7	94.7	76.3	57.2	42.8	36.8
32.5°	117.6	117.7	126.5	128.1	130.5	120.2	100.1	79.4	60.4	43.0	38.4
35°	116.9	120.5	126.3	134.1	137.0	124.8	105.7	80.5	60.6	43.3	38.5
37.5°	116.9	122.6	126.7	138.3	143.1	129.7	108.1	82.1	61.5	43.3	38.2
40°	116.7	121.5	126.8	139.4	144.9	133.0	110.0	82.4	63.2	43.7	37.8
42.5°	121.6	122.3	129.8	142.6	151.3	136.1	108.6	83.2	62.9	42.9	37.4
45°	121.4	122.8	133.2	142.9	152.4	138.0	113.9	87.2	62.4	43.8	37.0
47.5°	122.5	124.2	131.4	146.1	154.5	141.1	115.7	89.0	62.6	43.7	37.4
50°	124.4	123.5	131.2	148.3	159.2	142.0	116.7	87.5	63.5	44.1	37.8
52.5°	121.1	127.0	134.5	149.9	159.1	142.7	119.7	89.1	63.4	43.5	37.8
55°	123.8	127.3	138.0	150.8	163.0	142.1	122.6	91.4	66.2	42.7	36.6
57.5°	122.7	127.2	138.1	155.0	162.1	145.8	121.9	90.2	64.8	43.0	37.0
60°	122.7	125.3	138.1	155.0	159.9	148.2	124.4	91.6	64.4	43.5	36.7
62.5°	122.2	124.4	140.9	157.0	164.8	153.4	126.5	93.6	65.9	43.0	36.4
65°	121.4	122.4	143.0	153.2	164.8	157.4	128.8	93.8	65.8	42.3	35.1
67.5°	116.0	121.2	137.7	155.3	168.8	161.3	129.6	95.5	63.4	40.2	34.5
70°	113.8	118.8	137.3	155.0	169.5	163.2	131.6	92.9	62.0	39.4	33.8
72.5°	109.7	115.9	134.3	159.2	171.4	164.5	129.8	93.1	60.5	38.2	32.2
75°	106.6	113.9	134.4	158.9	174.9	164.3	131.0	92.4	58.4	37.5	31.9
77.5°	105.7	109.8	131.6	160.0	175.2	169.8	130.2	90.7	56.5	36.6	30.6
80°	99.3	105.1	129.8	161.0	174.1	170.1	127.5	88.5	55.8	35.5	29.6
82.5°	96.2	101.8	129.9	164.2	172.3	167.6	128.3	87.6	53.7	34.6	28.4
85°	95.8	99.6	130.3	163.0	172.8	168.8	130.5	87.0	53.1	33.1	27.7
87.5°	92.5	97.9	130.1	163.4	174.8	165.6	128.4	85.9	52.7	32.7	27.2
90°	90.8	96.3	126.7	160.8	172.8	165.4	125.3	84.0	51.0	31.4	25.9
92.5°	91.0	96.3	127.3	160.9	173.8	166.0	125.5	84.8	51.5	31.5	26.0
95°	91.7	97.4	126.9	161.1	173.8	165.9	126.2	85.0	52.2	32.1	26.4
97.5°	93.2	99.8	127.2	160.3	175.2	166.7	126.5	86.6	52.9	33.1	27.2
100°	95.8	102.6	128.9	159.7	174.8	166.7	128.0	88.2	54.5	34.0	28.3
102.5°	99.9	106.7	131.2	157.8	175.5	167.5	128.6	89.2	56.0	35.4	29.5
103°	100.5	107.4	131.9	157.2	175.4	167.4	128.5	89.6	56.5	35.7	29.8
105°	103.6	110.7	133.8	155.6	174.3	166.8	129.1	90.7	57.7	36.7	30.9
107.5°	107.4	113.1	135.9	155.2	172.6	165.9	129.9	91.7	59.4	38.0	32.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	111.0	115.0	137.4	155.0	169.9	164.9	129.5	93.0	61.3	39.4	33.5
112.5°	114.3	116.7	137.8	154.3	167.1	161.7	129.0	93.3	62.8	40.6	34.5
115°	115.4	118.0	137.7	154.7	165.9	155.6	126.6	93.3	63.5	41.5	35.2
117.5°	115.8	118.6	136.6	153.7	164.9	150.9	124.6	92.1	63.9	42.0	35.6
120°	116.1	119.1	133.3	152.1	163.3	148.1	123.1	91.2	64.0	42.4	35.9
122.5°	116.3	119.6	130.8	151.1	161.9	145.2	120.8	89.8	63.6	42.3	35.9
125°	117.1	119.9	128.6	149.8	160.5	142.8	117.8	88.3	62.7	42.2	35.9
127.5°	117.4	119.1	126.8	148.4	157.8	141.1	114.6	86.9	61.7	42.1	36.0
130°	117.4	118.2	127.2	144.8	155.0	139.4	111.5	85.9	61.2	41.9	36.0
132.5°	117.1	118.0	127.6	142.9	152.6	138.5	108.8	84.5	60.2	41.9	36.0
135°	114.9	116.9	127.8	141.5	148.8	135.9	106.6	83.1	59.9	41.9	36.0
137.5°	114.3	116.8	126.6	140.6	145.8	132.5	105.3	81.0	60.0	41.8	36.0
140°	115.2	118.2	125.9	139.3	141.8	128.5	105.3	79.0	59.2	41.7	35.9
142.5°	117.4	119.7	125.6	136.1	138.7	125.1	104.6	77.7	58.3	41.6	35.8
145°	116.9	118.6	126.4	131.5	134.7	120.1	101.5	77.2	57.3	41.3	35.6
147.5°	114.7	116.6	124.2	125.7	127.7	114.5	96.3	75.5	56.2	40.8	35.3
150°	113.0	114.4	118.6	119.0	120.3	109.4	90.9	72.0	54.6	40.0	34.6
152.5°	109.6	109.5	111.8	111.9	110.9	101.4	84.1	67.2	51.9	38.7	33.8
155°	102.5	102.1	103.7	103.5	99.9	92.0	78.0	62.1	48.4	37.0	32.5
157.5°	93.2	93.3	94.1	92.9	88.5	81.4	70.9	57.4	44.7	34.8	31.0
160°	81.7	82.0	81.5	81.2	77.4	70.8	62.2	51.3	40.8	32.4	29.2
162.5°	69.5	69.5	69.3	69.6	66.3	60.3	52.8	44.6	36.6	29.6	26.9
165°	57.7	57.5	57.5	57.8	55.4	50.7	45.0	38.1	32.0	26.6	24.4
167.5°	46.8	46.1	46.1	46.1	45.3	41.1	37.2	32.2	27.6	23.3	21.8
170°	36.1	36.1	36.0	35.7	34.7	32.7	29.9	26.6	23.0	20.3	19.0
172.5°	27.0	27.2	27.3	27.2	26.4	25.3	23.4	21.2	19.1	17.2	16.6
175°	20.0	20.2	20.2	19.9	19.6	19.0	18.0	16.9	15.8	14.8	14.3
177.5°	15.0	15.0	15.0	14.8	14.7	14.3	14.0	13.7	13.3	12.9	12.7
180°	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
2.5°	12.2	12.1	11.6	11.1	10.9	10.5	10.4	10.2	10.0	10.2
5°	13.9	13.1	12.1	11.4	10.9	10.6	10.4	10.3	10.4	10.5
7.5°	16.4	14.8	13.2	12.3	11.2	10.7	10.2	10.1	10.0	10.2
10°	18.9	16.6	14.9	12.9	11.5	10.3	9.9	9.5	9.9	10.0
12.5°	21.1	18.6	16.6	14.2	12.3	10.4	9.6	9.4	9.5	9.8
15°	23.8	20.3	17.7	15.1	12.4	10.6	9.5	9.2	9.2	9.0
17.5°	26.8	22.9	19.3	16.2	13.1	10.8	9.5	9.2	8.8	9.0
20°	28.4	23.6	20.4	16.5	13.4	10.6	9.5	9.3	9.0	8.5
22.5°	29.6	25.2	21.2	17.1	13.5	10.6	9.1	8.8	8.7	8.8
25°	31.8	26.2	22.2	17.8	13.9	10.7	9.3	8.8	8.9	8.8
27.5°	32.5	27.2	22.2	18.1	14.0	10.9	8.9	9.0	9.1	8.9
30°	32.9	27.8	23.1	18.6	14.0	10.7	8.9	9.3	8.9	9.3
32.5°	33.8	28.7	23.9	18.3	14.0	10.4	8.9	9.4	9.2	9.2
35°	33.5	28.4	23.8	18.9	13.6	10.6	9.1	9.1	9.1	8.6
37.5°	34.1	29.5	23.5	18.5	13.6	10.4	9.1	8.8	8.5	8.1
40°	33.9	29.4	23.3	18.1	13.2	10.2	8.6	8.1	7.8	8.0
42.5°	34.0	29.1	23.5	17.3	13.0	10.0	8.1	7.6	7.2	7.2
45°	34.5	29.4	23.3	16.9	12.4	9.8	7.6	7.0	6.6	6.2
47.5°	34.0	28.5	21.9	15.8	12.2	9.4	6.7	6.0	5.2	5.2
50°	33.4	28.8	21.4	15.2	12.1	8.7	6.1	4.9	4.3	4.3
52.5°	34.0	28.0	20.9	14.8	12.0	8.3	5.2	4.2	3.6	3.3
55°	33.9	27.8	20.0	14.5	11.3	7.6	4.2	3.1	2.6	2.8
57.5°	33.4	27.3	19.1	14.3	11.1	6.7	3.4	2.5	2.2	2.0
60°	32.9	26.6	18.5	14.1	10.9	6.1	2.7	1.9	1.7	1.7
62.5°	32.9	25.7	17.5	13.9	10.3	5.4	2.0	1.3	1.3	1.4
65°	32.5	25.0	17.4	13.4	9.5	4.7	1.4	0.9	0.9	1.0
67.5°	31.0	23.1	16.6	12.9	9.0	4.1	0.7	0.4	0.5	0.7
70°	29.4	22.1	15.6	12.5	8.4	3.1	0.2	0.1	0.1	0.1
72.5°	28.3	21.3	14.9	11.9	7.5	2.7	0.0	0.0	0.0	0.0
75°	27.8	20.1	14.2	11.3	7.0	2.2	0.0	0.0	0.0	0.0
77.5°	26.7	18.2	13.2	10.8	6.5	1.9	0.0	0.0	0.0	0.0
80°	25.2	17.3	12.8	10.1	5.8	1.7	0.0	0.0	0.0	0.0
82.5°	24.5	16.2	12.1	9.4	5.7	1.7	0.0	0.0	0.0	0.0
85°	24.2	16.1	12.0	9.3	5.4	1.7	0.0	0.0	0.0	0.0
87.5°	23.2	15.3	11.4	9.2	5.4	1.6	0.0	0.0	0.0	0.0
90°	22.2	15.1	11.5	9.1	5.3	1.7	0.0	0.0	0.0	0.0
92.5°	22.2	15.2	11.6	9.2	5.4	1.7	0.0	0.0	0.0	0.0
95°	22.6	15.5	11.9	9.3	5.4	1.7	0.0	0.0	0.0	0.0
97.5°	23.3	16.2	12.2	9.6	5.6	1.7	0.0	0.0	0.0	0.0
100°	24.3	17.2	12.7	10.0	5.8	1.8	0.0	0.0	0.0	0.0
102.5°	25.6	18.3	13.4	10.5	6.2	1.9	0.0	0.0	0.0	0.0
103°	25.8	18.5	13.5	10.6	6.3	1.9	0.0	0.0	0.0	0.0
105°	27.0	19.5	14.1	11.1	6.7	2.1	0.0	0.0	0.0	0.0
107.5°	28.4	20.9	14.9	11.7	7.3	2.5	0.0	0.0	0.0	0.0



TEST NUMBER: G1-1710-337-1

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

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	29.6	22.1	15.5	12.3	8.1	3.1	0.1	0.0	0.0	0.0
112.5°	30.6	23.3	16.2	12.9	9.0	3.9	0.6	0.2	0.1	0.2
115°	31.2	24.3	16.8	13.4	9.8	4.7	1.2	0.6	0.6	0.6
117.5°	31.7	25.0	17.4	13.8	10.4	5.5	1.8	1.1	1.0	1.0
120°	32.0	25.8	18.0	14.1	11.0	6.3	2.6	1.7	1.4	1.4
122.5°	32.1	26.3	18.6	14.3	11.5	7.1	3.4	2.3	1.9	1.9
125°	32.1	26.7	19.2	14.6	11.8	7.9	4.3	3.0	2.5	2.5
127.5°	32.3	27.0	19.8	14.8	12.1	8.5	5.2	3.8	3.2	3.1
130°	32.4	27.3	20.4	15.1	12.3	9.1	6.1	4.9	4.1	4.0
132.5°	32.5	27.4	21.0	15.4	12.5	9.5	7.0	5.9	5.2	5.1
135°	32.4	27.4	21.5	15.8	12.6	10.0	7.8	6.9	6.3	6.1
137.5°	32.3	27.4	21.9	16.3	12.7	10.3	8.4	7.8	7.3	7.2
140°	32.2	27.2	22.2	16.7	12.9	10.4	8.9	8.4	8.1	8.0
142.5°	32.0	26.9	22.3	17.2	13.0	10.5	9.2	8.9	8.7	8.6
145°	31.8	26.6	22.1	17.4	13.1	10.4	9.4	9.3	9.1	9.1
147.5°	31.4	26.2	21.8	17.4	13.3	10.4	9.4	9.5	9.5	9.5
150°	31.0	25.7	21.3	17.2	13.3	10.4	9.3	9.4	9.5	9.5
152.5°	30.3	25.2	20.7	16.9	13.3	10.4	9.2	9.3	9.3	9.3
155°	29.5	24.6	20.3	16.5	13.2	10.5	9.3	9.2	9.1	9.1
157.5°	28.3	23.8	19.6	16.1	13.0	10.6	9.3	9.1	9.0	9.0
160°	26.7	22.7	18.9	15.5	12.8	10.6	9.5	9.2	9.1	9.1
162.5°	24.7	21.3	17.9	15.0	12.5	10.5	9.6	9.4	9.2	9.2
165°	22.5	19.7	16.9	14.2	12.1	10.5	9.7	9.5	9.4	9.4
167.5°	20.2	17.9	15.7	13.6	11.7	10.4	9.8	9.6	9.6	9.6
170°	18.0	16.2	14.4	12.8	11.4	10.4	9.9	9.8	9.8	9.8
172.5°	15.7	14.5	13.3	12.2	11.3	10.6	10.2	10.1	10.1	10.0
175°	13.9	13.1	12.4	11.7	11.2	10.9	10.6	10.5	10.5	10.5
177.5°	12.6	12.2	11.9	11.6	11.4	11.2	11.1	11.0	11.0	11.0
180°	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0

(END OF REPORT)