

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: G1-1710-337-15

Luminaire Tested: **B95-PP-BLK-LD4-16W-40-OPL-120-EDC1**

Test Date: 11/08/17



**Test Information**

Test Method: LM-79-08  
Report Number: G1-1710-337-15  
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-LD4-16W-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 @ 325mA  
OT25UNVDIM1F0325

**Summary**

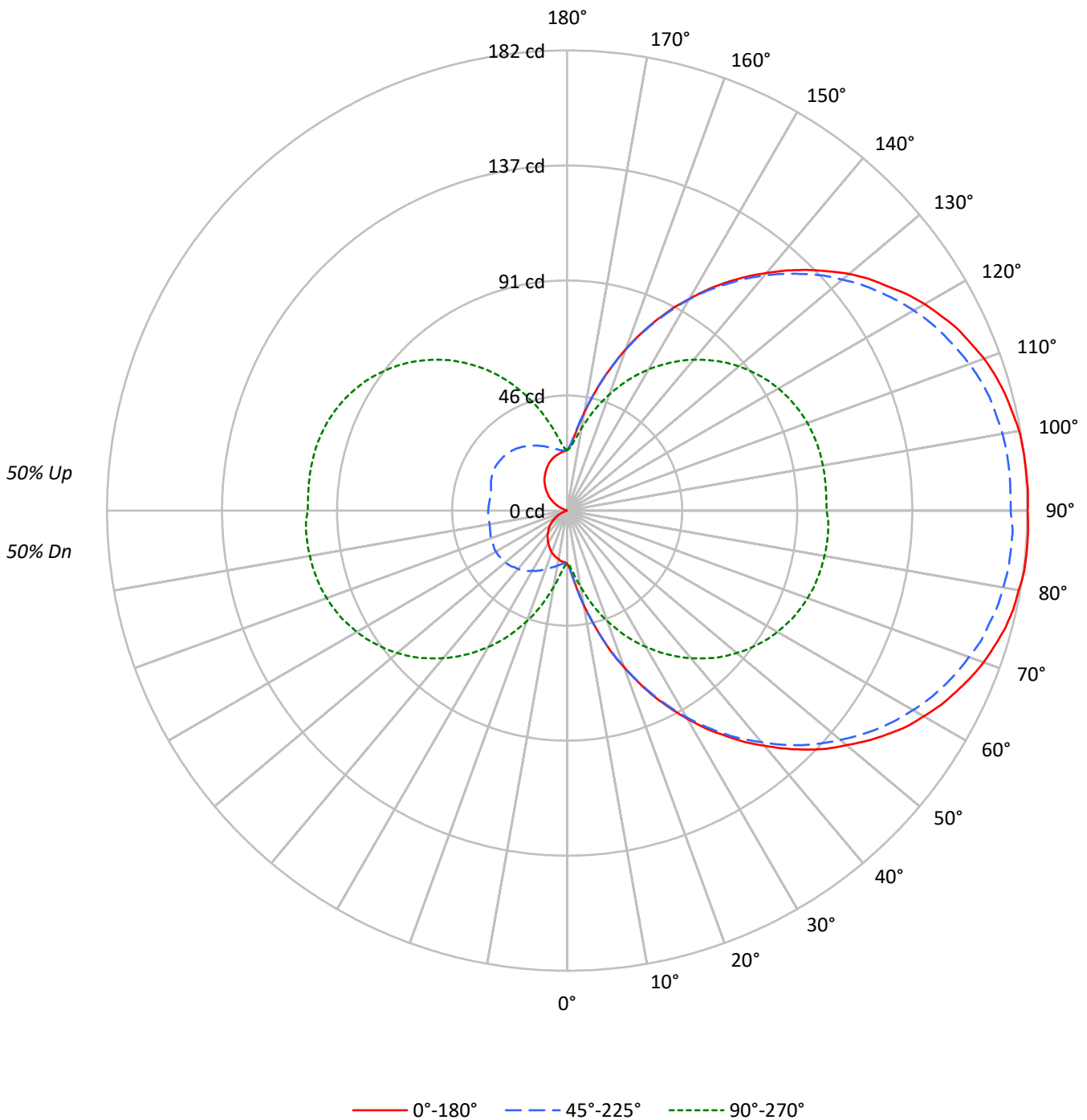
Lumens per Lamp: N/A  
Luminaire Lumens: 1058.5 lumens  
Efficiency: N/A  
Efficacy: 68.7 lumens/watt  
Spacing Criteria (0/90/45): 3.47 / 3.7 / 3.57  
Luminous Opening: Rectangular w/ Sides (W: 0.35' x L: 0.29' x H: 0.67')  
CIE Type: General Diffuse

Input Watts (W): 15.4  
Input Voltage (V): 120.0  
Input Current (Ain): 0.129  
Voltage Rise (V): NR  
Power Factor: 0.9969  
Total Harmonic Distortion (THDi): 5.36  
Frequency (hertz): 60  
Stabilization Time: 0.5 HR  
Operation Time: 7.0 HR  
Ambient Temperature (°C): 25.4  
Test Distance: 25 FT

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CATALOG NUMBER: B95-PP-BLK-LD4-16W-40-OPL-120-EDC1

### Luminous Intensity Polar Plot





TEST NUMBER: G1-1710-337-15

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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	83	83	83	69	69	69	56	56	56	50
1	92	86	80	75	84	79	73	69	65	61	57	53	50	47	41	39	37	31
2	82	72	64	57	75	66	58	52	54	48	43	43	39	35	33	30	27	22
3	74	62	52	45	67	56	48	41	46	40	34	37	32	27	28	24	21	16
4	67	53	44	37	60	49	40	34	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	13	10
6	55	42	32	25	50	38	29	23	31	24	19	25	19	15	19	14	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	28	20	14	37	25	18	13	21	15	11	17	12	9	13	9	6	4

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

	0°	90°	180°
0°	2178	2178	2178
5°	2327	2164	1770
10°	2866	2431	1471
15°	3432	2754	1251
20°	3995	3060	1071
25°	4508	3343	907
30°	4928	3586	778
35°	5312	3814	655
40°	5659	4018	555
45°	5996	4213	462
50°	6281	4378	374
55°	6578	4541	290
60°	6842	4696	210
65°	7090	4851	130
70°	7340	4996	38
75°	7579	5147	0
80°	7796	5309	0
85°	8044	5501	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	2.5	0.2
10°-20°	10.7	1.0
20°-30°	24.4	2.3
30°-40°	41.9	4.0
40°-50°	61.0	5.8
50°-60°	79.3	7.5
60°-70°	94.1	8.9
70°-80°	104.2	9.8
80°-90°	108.9	10.3
90°-100°	108.5	10.3
100°-110°	104.0	9.8
110°-120°	94.4	8.9
120°-130°	80.0	7.6
130°-140°	62.1	5.9
140°-150°	43.1	4.1
150°-160°	25.4	2.4
160°-170°	11.4	1.1
170°-180°	2.7	0.3
0°-30°	37.6	3.6
0°-40°	79.5	7.5
0°-60°	219.8	20.8
0°-90°	527.0	49.8
90°-120°	307.0	29.0
90°-150°	492.1	46.5
90°-180°	532.0	50.3
0°-180°	1058.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	21	21	21	21	21	
5°	27	27	24	21	20	3
15°	51	52	38	23	19	15
25°	81	80	55	26	16	38
35°	109	108	70	29	13	69
45°	134	131	82	31	10	104
55°	154	150	92	32	7	138
65°	170	164	99	32	3	168
75°	179	173	103	32	0	189
85°	182	176	104	31	0	149
90°	182	175	103	31	0	100
95°	182	176	103	31	0	149
105°	179	173	102	31	0	189
115°	170	164	99	33	3	169
125°	155	151	93	33	8	139
135°	135	132	84	32	12	104
145°	110	109	71	31	16	69
155°	83	82	57	28	19	39
165°	53	53	41	26	22	16
175°	29	29	27	24	23	3
180°	24	24	24	24	24	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9
2.5°	22.9	22.9	23.0	22.9	22.9	22.7	22.7	22.4	22.3	22.0	21.8
5°	26.7	26.6	26.7	26.8	27.0	26.9	26.3	26.0	25.2	24.6	24.1
7.5°	31.8	32.0	31.9	32.1	32.3	32.1	31.1	30.2	28.9	27.8	27.3
10°	38.0	37.9	37.6	38.2	38.2	37.8	36.7	35.1	33.5	31.5	30.6
12.5°	44.3	44.6	44.4	44.8	45.0	44.3	42.8	40.7	38.1	35.6	34.3
15°	51.3	51.8	51.3	51.7	52.5	51.5	49.2	46.6	43.3	39.8	38.4
17.5°	59.0	58.8	58.4	59.3	59.8	58.6	56.0	52.7	48.4	44.2	42.6
20°	66.0	66.3	66.2	66.4	67.0	65.8	63.1	58.7	53.8	48.7	46.5
22.5°	73.4	73.4	73.4	74.2	74.5	73.0	69.6	64.9	58.9	52.8	50.5
25°	81.0	80.5	80.6	81.3	82.1	80.4	76.6	70.9	64.3	57.5	54.6
27.5°	88.0	87.9	87.8	88.5	89.4	87.4	83.3	76.7	69.4	61.8	58.6
30°	95.0	94.9	94.6	95.3	96.3	94.4	89.6	82.4	74.1	65.7	62.2
32.5°	102.2	102.1	101.5	102.3	103.2	101.1	95.9	88.5	79.1	69.7	65.9
35°	108.6	108.4	107.9	108.6	109.8	107.6	102.3	93.9	83.9	73.6	69.5
37.5°	115.4	115.0	114.1	114.4	116.0	113.9	108.1	99.1	88.5	77.3	72.9
40°	121.4	121.4	120.1	120.7	122.1	119.5	113.9	104.3	92.7	80.9	76.2
42.5°	127.7	127.4	126.2	126.6	127.9	125.6	119.2	109.1	96.9	84.1	79.3
45°	133.7	133.4	132.0	132.1	133.5	131.2	124.4	113.8	101.0	87.4	82.4
47.5°	139.4	138.5	137.3	137.1	138.9	136.3	129.2	118.2	104.7	90.5	85.1
50°	144.3	144.4	141.7	142.1	144.0	141.1	134.0	122.5	108.3	93.5	87.6
52.5°	149.6	149.3	146.7	146.8	148.7	145.9	138.3	126.6	111.7	96.0	90.1
55°	154.4	153.9	151.3	151.4	153.1	150.3	142.2	130.3	114.8	98.5	92.2
57.5°	159.1	158.4	155.9	155.5	157.2	154.3	146.4	133.7	117.8	100.7	94.3
60°	162.8	162.4	159.6	158.9	160.9	157.9	149.5	137.0	120.5	102.8	96.0
62.5°	166.6	166.2	163.3	162.4	164.5	161.4	152.9	139.6	122.6	104.5	97.6
65°	169.7	169.5	166.2	165.5	167.5	164.3	155.7	142.3	124.7	106.1	99.1
67.5°	172.7	172.3	169.0	168.2	170.5	167.0	158.2	144.4	126.7	107.5	100.2
70°	175.4	174.9	171.4	170.6	172.5	169.2	160.3	146.2	127.9	108.5	101.2
72.5°	177.4	177.0	173.4	172.5	174.5	171.6	162.1	147.8	129.3	109.4	102.1
75°	179.4	178.6	175.1	174.2	176.3	172.8	163.6	149.2	130.4	110.3	102.6
77.5°	180.7	180.2	176.3	175.3	177.8	174.4	164.8	150.3	131.1	110.8	103.1
80°	181.4	180.9	177.1	176.1	178.5	175.2	165.7	150.9	132.0	111.1	103.3
82.5°	182.4	182.0	178.0	177.2	179.3	176.0	166.4	151.5	132.3	111.2	103.6
85°	182.5	181.8	178.1	177.0	179.6	176.2	166.7	151.5	132.1	111.3	103.6
87.5°	182.5	182.4	178.1	177.2	179.4	176.4	166.6	151.6	132.1	111.1	103.4
90°	182.2	181.6	177.7	176.8	178.9	175.4	165.7	150.6	131.0	110.2	102.6
92.5°	182.4	181.6	177.8	176.9	179.0	175.5	165.9	150.8	131.0	110.3	102.6
95°	182.2	181.6	177.6	176.8	179.1	175.6	165.9	150.8	131.1	110.4	102.7
97.5°	182.0	181.5	177.6	176.7	178.9	175.4	165.8	150.6	131.0	110.4	102.8
100°	181.6	181.2	177.2	176.4	178.4	174.9	165.5	150.5	131.0	110.4	102.7
102.5°	180.3	180.0	176.1	175.3	177.4	173.9	164.5	149.7	130.3	110.1	102.6
105°	179.2	178.9	175.1	174.3	176.4	173.0	163.6	149.0	129.9	109.7	102.3
107.5°	177.6	177.1	173.5	172.7	174.9	171.4	162.2	147.6	128.9	109.1	101.8
110°	175.6	174.9	171.6	170.9	172.9	169.4	160.5	146.1	127.8	108.3	101.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	172.8	172.3	169.0	168.4	170.3	166.9	158.2	144.1	126.0	107.3	100.3
115°	170.3	169.7	166.4	165.9	167.9	164.4	155.9	142.2	124.6	106.1	99.2
117.5°	166.8	166.3	163.2	163.0	164.7	161.6	153.2	139.7	122.4	104.6	98.0
120°	163.3	162.9	160.0	159.8	161.6	158.3	150.3	136.9	120.3	102.9	96.5
122.5°	159.3	158.8	156.1	155.9	157.7	154.7	146.7	134.1	117.7	101.1	94.9
125°	154.7	154.5	152.0	152.2	153.7	150.8	143.0	130.7	115.0	98.9	93.0
127.5°	150.5	150.0	147.7	148.1	149.8	146.8	139.1	127.3	112.0	96.7	90.9
130°	145.6	144.9	143.1	143.5	145.3	142.1	134.7	123.5	108.8	94.2	88.7
132.5°	140.1	139.9	138.3	138.6	140.2	137.6	130.4	119.3	105.5	91.5	86.3
135°	134.6	134.6	133.0	133.7	135.1	132.3	125.7	115.0	101.8	88.6	83.7
137.5°	128.8	128.9	127.5	128.3	129.7	127.0	120.4	110.4	97.9	85.5	80.8
140°	122.7	122.7	121.7	122.6	123.8	121.4	115.2	105.7	93.9	82.3	77.9
142.5°	116.6	116.7	115.8	116.7	117.8	115.5	109.5	100.6	89.8	78.9	74.8
145°	110.3	110.2	109.6	110.4	111.7	109.2	103.8	95.4	85.0	75.3	71.4
147.5°	103.7	103.7	103.2	104.1	105.2	103.1	97.6	90.0	80.4	71.5	68.0
150°	96.7	96.6	96.3	97.6	98.3	96.5	91.5	84.2	75.9	67.5	64.5
152.5°	90.0	89.8	89.7	90.4	91.4	89.3	84.9	78.6	70.9	63.5	60.7
155°	82.7	82.6	82.4	83.4	84.1	82.4	78.2	72.5	65.7	59.4	56.9
157.5°	75.5	75.3	75.1	76.1	76.4	75.1	71.7	66.3	60.7	54.9	52.9
160°	68.1	67.8	68.1	68.6	69.0	67.7	64.7	60.3	55.5	50.8	48.9
162.5°	60.3	60.6	60.5	61.1	61.4	60.4	58.1	54.3	50.3	46.4	44.8
165°	53.1	53.3	53.5	53.8	54.0	53.3	51.1	48.4	45.1	42.0	40.9
167.5°	45.9	46.1	46.1	46.6	46.8	46.2	44.6	42.6	40.1	37.7	36.8
170°	39.6	39.4	39.4	40.0	40.0	39.7	38.8	37.0	35.4	33.7	33.2
172.5°	33.4	33.5	33.7	33.9	34.1	33.9	33.1	32.3	31.1	30.1	29.7
175°	28.7	28.6	28.9	29.1	29.1	29.1	28.6	28.1	27.6	27.1	26.8
177.5°	25.5	25.4	25.4	25.4	25.4	25.4	25.3	25.1	24.9	24.8	24.7
180°	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9
2.5°	21.7	21.5	21.2	21.0	20.8	20.6	20.6	20.4	20.5	20.4
5°	23.8	23.3	22.5	21.7	21.1	20.6	20.3	20.4	20.4	20.3
7.5°	26.6	25.4	24.2	22.9	21.6	20.6	20.0	20.0	20.0	20.1
10°	29.7	28.0	26.0	24.0	22.1	20.5	19.6	19.6	19.6	19.5
12.5°	33.4	30.9	28.1	25.4	22.7	20.4	19.3	19.1	19.1	19.1
15°	37.0	33.9	30.6	26.8	23.3	20.4	18.9	18.7	18.7	18.7
17.5°	40.7	37.1	32.8	28.2	24.1	20.3	18.4	18.2	18.1	18.1
20°	44.6	40.4	35.4	30.0	24.8	20.2	17.9	17.7	17.5	17.7
22.5°	48.4	43.5	37.8	31.6	25.4	20.1	17.2	17.0	17.0	17.0
25°	52.0	46.7	40.2	33.2	26.2	20.1	16.7	16.4	16.3	16.3
27.5°	55.9	49.8	42.8	34.8	26.9	19.9	16.1	15.8	15.7	15.6
30°	59.3	52.7	45.0	36.3	27.5	19.7	15.2	15.0	14.8	15.0
32.5°	63.0	55.8	47.4	38.0	28.3	19.6	14.7	14.5	14.2	14.2
35°	66.1	58.6	49.5	39.4	28.9	19.4	13.9	13.5	13.5	13.4
37.5°	69.5	61.3	51.8	40.9	29.5	19.2	13.2	12.9	12.7	12.7
40°	72.5	64.0	53.7	42.2	30.2	18.9	12.3	11.9	11.9	11.9
42.5°	75.3	66.2	55.5	43.2	30.5	18.6	11.5	11.1	11.0	11.0
45°	78.1	68.6	57.5	44.7	31.2	18.4	10.8	10.5	10.3	10.3
47.5°	80.6	70.8	59.1	45.7	31.6	18.1	9.9	9.5	9.5	9.5
50°	83.1	72.9	60.5	46.7	31.9	17.8	9.0	8.6	8.5	8.6
52.5°	85.3	74.7	62.1	47.6	32.2	17.4	8.1	7.8	7.7	7.7
55°	87.3	76.3	63.3	48.3	32.3	16.9	7.2	6.8	6.7	6.8
57.5°	89.2	77.9	64.4	49.0	32.5	16.4	6.2	5.9	5.9	5.8
60°	91.0	79.2	65.5	49.6	32.5	15.8	5.3	4.7	4.9	5.0
62.5°	92.4	80.6	66.2	50.0	32.5	15.1	4.2	3.8	4.0	4.1
65°	93.7	81.5	67.1	50.3	32.2	14.4	2.9	2.7	3.0	3.1
67.5°	94.8	82.4	67.6	50.4	32.0	13.7	1.9	1.7	1.9	2.1
70°	95.7	83.0	68.0	50.7	32.0	13.1	0.9	0.7	0.8	0.9
72.5°	96.4	83.6	68.3	50.7	31.8	12.6	0.2	0.0	0.0	0.0
75°	97.1	83.9	68.6	50.8	31.5	12.2	0.0	0.0	0.0	0.0
77.5°	97.4	84.3	68.6	50.7	31.3	11.9	0.0	0.0	0.0	0.0
80°	97.6	84.5	68.6	50.5	31.1	11.7	0.0	0.0	0.0	0.0
82.5°	97.8	84.6	68.7	50.7	31.2	11.8	0.0	0.0	0.0	0.0
85°	97.7	84.5	68.8	50.7	31.2	11.8	0.0	0.0	0.0	0.0
87.5°	97.7	84.5	68.9	50.9	31.3	11.8	0.0	0.0	0.0	0.0
90°	96.9	83.9	68.3	50.5	31.2	12.1	0.0	0.0	0.0	0.0
92.5°	96.9	83.8	68.3	50.5	31.1	12.1	0.0	0.0	0.0	0.0
95°	97.0	83.8	68.2	50.3	31.0	12.1	0.0	0.0	0.0	0.0
97.5°	97.0	83.8	68.1	50.2	30.9	12.0	0.0	0.0	0.0	0.0
100°	97.0	83.8	68.1	50.2	30.9	11.9	0.0	0.0	0.0	0.0
102.5°	96.9	83.8	68.2	50.4	31.0	12.0	0.0	0.0	0.0	0.0
105°	96.6	83.6	68.2	50.5	31.2	12.2	0.0	0.0	0.0	0.0
107.5°	96.2	83.4	68.1	50.6	31.6	12.8	0.3	0.0	0.0	0.0
110°	95.7	83.0	67.9	50.7	32.1	13.8	1.4	0.6	0.5	0.5





TEST NUMBER: G1-1710-337-15

CATALOG NUMBER: B95-PP-BLK-LD4-16W-40-OPL-120-EDC1

**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	94.9	82.4	67.6	50.7	32.5	14.7	2.8	2.1	1.9	2.0
115°	93.9	81.7	67.2	50.7	32.8	15.6	4.1	3.5	3.3	3.4
117.5°	92.8	80.9	66.6	50.4	33.1	16.3	5.2	4.8	4.6	4.6
120°	91.5	79.8	66.0	50.1	33.2	17.0	6.3	5.9	5.7	5.8
122.5°	89.9	78.6	65.1	49.7	33.3	17.6	7.4	7.0	6.8	6.9
125°	88.2	77.3	64.1	49.2	33.2	18.1	8.4	8.0	7.9	7.9
127.5°	86.3	75.7	63.0	48.5	33.1	18.6	9.4	9.1	8.9	9.0
130°	84.4	74.0	61.8	47.8	33.0	19.1	10.4	10.1	10.0	9.9
132.5°	82.0	72.2	60.4	46.9	32.8	19.6	11.4	11.1	10.9	10.9
135°	79.7	70.1	58.8	46.0	32.5	20.0	12.3	12.0	11.9	11.9
137.5°	77.0	68.0	57.2	45.0	32.2	20.4	13.2	12.9	12.8	12.8
140°	74.2	65.7	55.5	43.9	31.8	20.7	14.1	13.9	13.7	13.8
142.5°	71.5	63.2	53.6	42.6	31.3	21.1	15.1	14.8	14.7	14.7
145°	68.3	60.7	51.5	41.3	30.8	21.4	15.9	15.7	15.6	15.6
147.5°	64.9	57.8	49.5	39.9	30.2	21.7	16.8	16.6	16.4	16.4
150°	61.6	55.1	47.2	38.5	29.7	22.0	17.6	17.4	17.3	17.2
152.5°	58.1	52.1	45.0	37.0	29.0	22.2	18.4	18.2	18.1	18.0
155°	54.6	49.0	42.5	35.4	28.4	22.3	19.1	18.9	18.8	18.8
157.5°	50.7	46.0	40.1	33.9	27.7	22.5	19.8	19.6	19.6	19.6
160°	47.1	42.7	37.7	32.4	27.1	22.7	20.5	20.3	20.3	20.3
162.5°	43.3	39.5	35.4	30.8	26.4	22.8	21.1	21.0	20.9	20.9
165°	39.5	36.5	33.0	29.3	25.8	23.0	21.6	21.5	21.5	21.5
167.5°	35.8	33.5	30.6	27.8	25.2	23.1	22.1	22.0	22.0	22.0
170°	32.4	30.6	28.6	26.5	24.7	23.2	22.6	22.5	22.5	22.4
172.5°	29.1	28.1	26.8	25.4	24.2	23.3	22.9	22.9	22.9	22.8
175°	26.5	25.9	25.2	24.5	23.9	23.5	23.3	23.2	23.2	23.2
177.5°	24.6	24.4	24.1	24.0	23.8	23.6	23.5	23.5	23.5	23.5
180°	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9

(END OF REPORT)