

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: G1-1710-337-12

Luminaire Tested: **B95-VE-BLK-LD4-20W-40-CL-120-EDC1**

Test Date: 11/08/17



**Test Information**

Test Method: LM-79-08  
Report Number: G1-1710-337-12  
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-VE-BLK-LD4-20W-40-CL-120-EDC1  
Description: VR 2000 BRICK LED WITH CLEAR LENS & VERTICAL EYELID FLAT BLACK  
Light Source: (56) NICHIA 4000K LEDS  
1FS402256M8404  
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER @ 400mA  
OT25UNVDIM1F0400

**Summary**

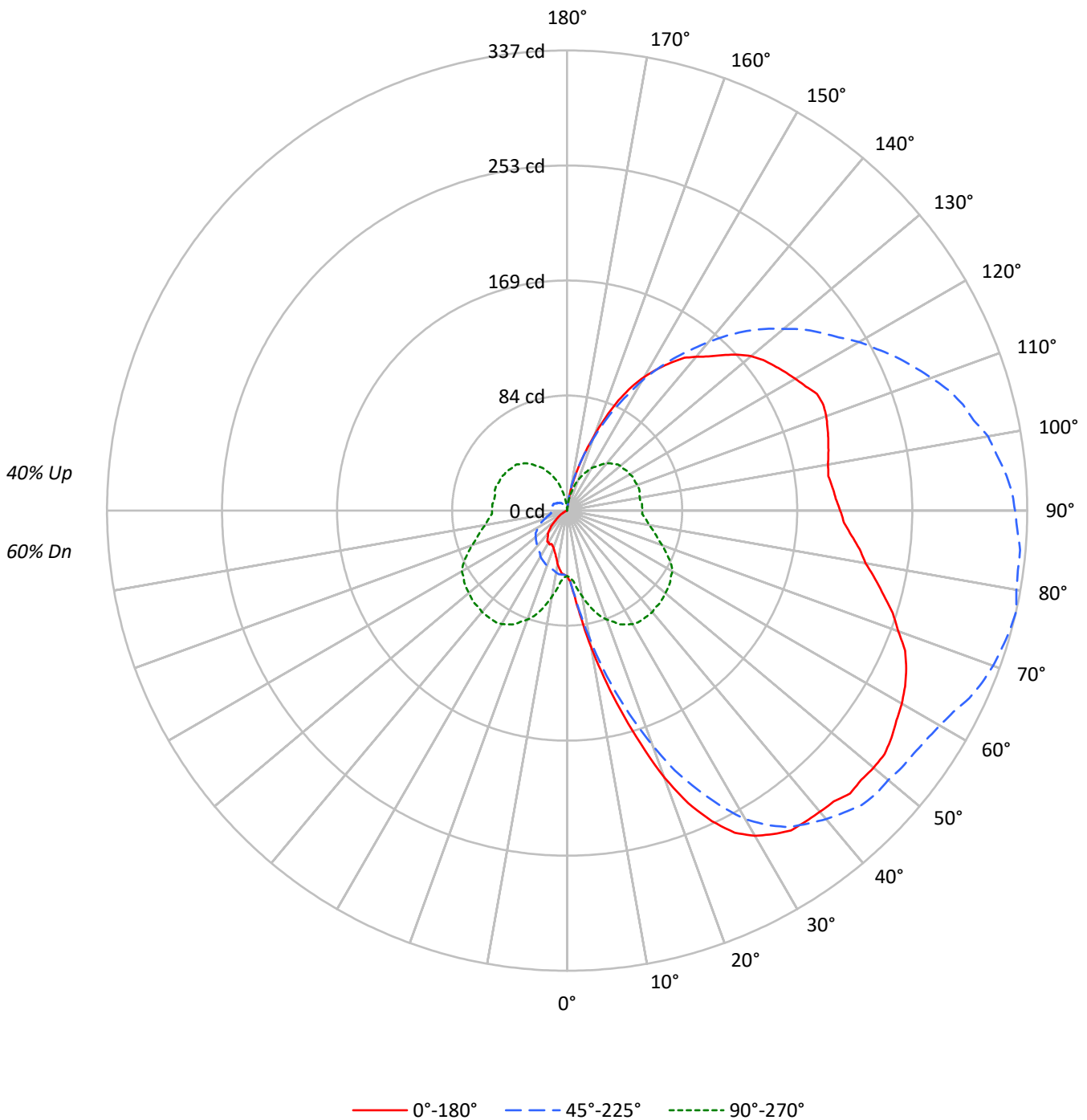
Lumens per Lamp: N/A  
Luminaire Lumens: 1409.5 lumens  
Efficiency: N/A  
Efficacy: 74.2 lumens/watt  
Spacing Criteria (0/90/45): 3.06 / 2.43 / 3.16  
Luminous Opening: Rectangular w/ Sides (W: 0.35' x L: 0.29' x H: 0.67')  
CIE Type: General Diffuse

Input Watts (W): 19  
Input Voltage (V): 120.0  
Input Current (Ain): 0.159  
Voltage Rise (V): NR  
Power Factor: 0.9982  
Total Harmonic Distortion (THDi): 5.00%  
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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### Luminous Intensity Polar Plot





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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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60
1	95	89	83	78	88	82	77	72	70	66	63	60	57	54	50	47	45	40
2	85	75	66	59	78	69	62	56	59	53	48	50	45	41	41	37	34	30
3	76	64	55	47	70	59	51	44	50	44	38	42	37	32	35	30	27	23
4	69	55	46	38	63	51	43	36	44	37	31	37	31	26	30	26	22	18
5	63	49	39	32	57	45	36	30	38	31	26	32	26	22	26	22	18	15
6	57	43	34	27	53	40	31	25	34	27	22	29	23	19	23	19	15	12
7	53	39	29	23	48	36	28	22	31	24	19	26	20	16	21	17	13	10
8	49	35	26	20	45	32	24	19	28	21	16	23	18	14	19	15	11	9
9	45	32	23	17	42	29	22	16	25	19	14	21	16	12	18	13	10	8
10	42	29	21	15	39	27	19	14	23	17	12	19	14	11	16	12	9	7

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

	0°	90°	180°
0°	5002	5002	5002
5°	5492	4670	4010
10°	7692	5084	3017
15°	10102	5450	2208
20°	12591	5593	1755
25°	13969	5633	1503
30°	14264	5535	1401
35°	13990	5323	1223
40°	13426	5115	1026
45°	13141	4908	762
50°	12755	4698	479
55°	12355	4532	298
60°	11893	4354	168
65°	11447	4014	84
70°	10797	3653	0
75°	10139	3361	0
80°	9541	3135	0
85°	9212	3027	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	5.6	0.4
10°-20°	25.5	1.8
20°-30°	57.7	4.1
30°-40°	90.2	6.4
40°-50°	114.0	8.1
50°-60°	130.4	9.3
60°-70°	139.5	9.9
70°-80°	140.4	10.0
80°-90°	136.4	9.7
90°-100°	130.8	9.3
100°-110°	121.3	8.6
110°-120°	106.3	7.5
120°-130°	85.5	6.1
130°-140°	62.2	4.4
140°-150°	39.1	2.8
150°-160°	18.7	1.3
160°-170°	5.4	0.4
170°-180°	0.4	0.0
0°-30°	88.8	6.3
0°-40°	179.0	12.7
0°-60°	423.4	30.0
0°-90°	839.8	59.6
90°-120°	358.5	25.4
90°-150°	545.3	38.7
90°-180°	570.0	40.4
0°-180°	1409.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	48	48	48	48	48	
5°	63	62	52	47	46	7
15°	151	138	76	44	33	45
25°	251	225	92	41	27	116
35°	286	283	97	36	25	178
45°	293	305	96	32	17	226
55°	290	310	92	28	7	259
65°	274	325	82	21	2	271
75°	240	336	67	14	0	254
85°	209	333	57	12	0	174
90°	200	328	55	12	0	110
95°	195	322	55	12	0	159
105°	198	300	55	12	0	209
115°	202	266	54	11	0	198
125°	185	227	52	9	0	166
135°	161	186	48	8	0	125
145°	132	136	40	6	0	83
155°	89	82	30	4	0	41
165°	34	35	17	2	0	11
175°	1	0	0	0	0	1
180°	0	0	0	0	0	



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CATALOG NUMBER: B95-VE-BLK-LD4-20W-40-CL-120-EDC1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	48	48	48	48	48	48	48	48	48	48	48
2.5°	52	53	53	52	52	52	52	51	50	50	49
5°	63	63	64	64	63	62	62	60	57	55	53
7.5°	80	80	80	80	80	78	77	72	67	63	59
10°	102	102	101	102	100	98	95	88	80	73	66
12.5°	125	125	126	125	124	120	116	105	94	83	74
15°	151	152	152	153	149	145	138	124	108	93	81
17.5°	179	179	178	179	174	170	160	143	122	103	87
20°	208	206	204	205	199	193	183	162	136	111	92
22.5°	232	232	231	230	224	217	206	179	149	120	97
25°	251	251	251	253	246	239	225	195	160	127	101
27.5°	266	267	269	272	267	260	244	210	170	134	104
30°	275	277	283	287	284	276	261	221	179	140	107
32.5°	281	283	292	301	298	291	273	230	185	144	109
35°	286	288	295	311	310	302	283	239	189	146	109
37.5°	287	291	297	318	319	309	289	245	191	148	110
40°	288	292	302	322	327	316	295	248	192	149	109
42.5°	289	294	307	325	333	321	300	249	195	150	109
45°	293	296	307	326	338	325	305	251	198	150	109
47.5°	292	295	305	329	342	329	307	253	200	151	108
50°	293	296	302	332	345	333	307	255	201	151	108
52.5°	293	297	303	331	345	337	309	256	201	151	107
55°	290	297	306	333	345	339	310	260	203	151	107
57.5°	286	293	308	335	345	342	312	261	203	151	105
60°	283	289	309	335	345	345	315	261	202	150	103
62.5°	279	284	309	333	345	346	319	264	202	148	100
65°	274	278	306	331	345	347	325	266	202	145	96
67.5°	268	272	302	330	347	350	329	266	200	141	92
70°	258	264	296	326	349	353	332	266	198	137	88
72.5°	250	258	290	326	350	356	334	266	195	133	84
75°	240	249	285	327	350	354	336	266	193	129	80
77.5°	231	240	278	326	351	355	337	264	190	126	77
80°	222	231	272	324	349	353	334	261	186	122	74
82.5°	216	224	268	323	347	350	333	260	183	119	71
85°	209	218	264	321	347	350	333	259	181	117	70
87.5°	203	212	260	317	343	345	330	257	178	114	68
90°	200	209	257	314	339	341	328	256	177	113	67
92.5°	197	206	254	308	336	339	326	255	178	113	67
95°	195	204	250	303	331	334	322	253	176	113	67
97.5°	193	203	247	298	325	331	317	250	175	112	67
100°	194	204	245	291	320	326	313	248	174	112	67
102.5°	196	205	243	285	312	318	305	244	172	111	67
105°	198	207	242	279	307	313	300	240	171	111	67
107.5°	200	209	240	275	301	307	293	236	168	110	67
110°	202	207	238	271	293	299	284	230	166	109	67



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CATALOG NUMBER: B95-VE-BLK-LD4-20W-40-CL-120-EDC1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
112.5°	203	206	235	265	287	293	275	226	162	108	67
115°	202	203	229	260	281	283	266	218	158	106	66
117.5°	197	201	224	252	274	275	256	211	154	104	65
120°	193	197	216	246	266	266	247	204	151	103	65
122.5°	189	193	207	238	257	256	236	197	146	101	64
125°	185	188	198	228	247	245	227	187	141	98	63
127.5°	181	183	191	219	237	233	218	178	134	95	63
130°	176	176	184	208	226	222	207	170	130	93	61
132.5°	169	169	177	198	215	209	197	160	124	89	60
135°	161	161	170	188	202	197	186	152	117	86	58
137.5°	153	154	162	179	190	185	174	143	110	83	57
140°	147	148	153	170	178	173	161	134	104	78	54
142.5°	141	141	144	159	163	160	148	124	97	73	51
145°	132	132	137	146	149	146	136	115	91	68	48
147.5°	123	123	128	131	134	130	123	104	83	63	45
150°	113	113	115	117	117	115	110	93	75	58	42
152.5°	102	102	101	102	102	100	95	82	67	53	39
155°	89	88	86	88	87	85	82	72	60	47	36
157.5°	74	73	72	73	73	72	69	61	52	41	32
160°	59	59	58	60	60	59	56	51	44	36	28
162.5°	46	47	46	47	48	47	45	42	36	30	24
165°	34	34	34	36	36	36	35	32	28	24	20
167.5°	24	24	24	25	27	26	26	24	22	18	15
170°	15	15	16	17	18	18	18	17	15	13	11
172.5°	6	6	6	8	9	10	10	10	9	8	7
175°	1	1	1	1	0	0	0	0	0	0	1
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0



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CATALOG NUMBER: B95-VE-BLK-LD4-20W-40-CL-120-EDC1

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	48	48	48	48	48	48	48	48	48	48	48
2.5°	49	49	48	48	47	47	47	47	47	47	47
5°	52	51	50	49	48	47	46	46	46	46	46
7.5°	58	56	54	52	49	47	45	44	43	43	43
10°	64	62	58	54	50	46	43	41	40	40	40
12.5°	70	68	63	57	51	45	41	38	37	36	36
15°	76	72	66	59	51	44	39	36	34	33	33
17.5°	81	77	69	60	52	43	37	33	32	31	31
20°	85	80	71	62	52	43	35	31	30	29	29
22.5°	88	83	73	62	52	42	34	29	28	27	28
25°	92	86	75	63	52	41	32	28	27	27	27
27.5°	94	88	76	64	52	40	31	27	28	28	28
30°	96	89	77	64	51	39	30	27	28	27	27
32.5°	97	90	78	65	51	37	30	27	27	27	27
35°	97	90	78	64	49	36	29	27	26	25	25
37.5°	97	90	78	64	48	35	29	26	25	24	23
40°	97	90	78	62	45	34	28	24	23	22	22
42.5°	96	89	78	61	43	33	27	23	21	19	19
45°	96	89	77	59	40	32	26	21	18	17	17
47.5°	95	88	76	56	39	31	24	18	16	14	14
50°	94	88	74	53	37	30	22	16	13	11	11
52.5°	93	86	72	51	35	29	20	13	11	9	9
55°	92	85	71	48	34	28	18	11	8	7	7
57.5°	90	83	69	45	33	26	16	9	6	6	6
60°	89	81	66	43	31	24	14	6	5	4	4
62.5°	86	78	62	41	30	23	12	5	3	3	3
65°	82	75	59	38	29	21	10	3	2	2	2
67.5°	78	71	56	36	28	19	8	1	1	1	1
70°	74	67	52	34	26	17	7	0	0	0	0
72.5°	70	63	48	32	25	16	5	0	0	0	0
75°	67	60	45	30	23	14	4	0	0	0	0
77.5°	64	56	41	28	21	13	4	0	0	0	0
80°	61	54	38	26	20	12	4	0	0	0	0
82.5°	59	51	36	25	20	12	4	0	0	0	0
85°	57	50	34	24	19	12	4	0	0	0	0
87.5°	55	48	33	24	19	12	4	0	0	0	0
90°	55	48	33	24	19	12	4	0	0	0	0
92.5°	55	48	33	24	19	12	4	0	0	0	0
95°	55	48	33	24	19	12	4	0	0	0	0
97.5°	54	48	33	24	19	12	4	0	0	0	0
100°	54	47	34	24	19	12	3	0	0	0	0
102.5°	54	48	34	25	19	12	3	0	0	0	0
105°	55	48	35	25	19	12	3	0	0	0	0
107.5°	55	48	35	25	19	12	3	0	0	0	0
110°	55	48	35	25	19	11	3	0	0	0	0





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CATALOG NUMBER: B95-VE-BLK-LD4-20W-40-CL-120-EDC1

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	54	48	36	25	19	11	3	0	0	0	0
115°	54	47	36	25	18	11	3	0	0	0	0
117.5°	54	47	36	25	18	11	3	0	0	0	0
120°	53	46	36	25	17	10	3	0	0	0	0
122.5°	53	46	36	25	17	10	3	0	0	0	0
125°	52	45	36	25	17	9	3	0	0	0	0
127.5°	51	44	35	25	16	9	3	0	0	0	0
130°	51	43	34	25	16	9	2	0	0	0	0
132.5°	50	42	33	25	16	8	2	0	0	0	0
135°	48	41	32	24	15	8	2	0	0	0	0
137.5°	47	40	31	23	15	8	2	0	0	0	0
140°	45	38	29	22	14	7	2	0	0	0	0
142.5°	43	36	27	20	13	7	1	0	0	0	0
145°	40	34	25	18	12	6	1	0	0	0	0
147.5°	38	32	23	17	11	6	1	0	0	0	0
150°	36	30	21	15	10	5	1	0	0	0	0
152.5°	33	28	20	13	9	4	1	0	0	0	0
155°	30	26	18	12	8	4	0	0	0	0	0
157.5°	27	24	17	11	7	3	0	0	0	0	0
160°	24	21	15	10	6	3	0	0	0	0	0
162.5°	21	18	14	9	5	2	0	0	0	0	0
165°	17	15	11	8	4	2	0	0	0	0	0
167.5°	13	12	9	6	3	1	0	0	0	0	0
170°	10	9	7	4	2	0	0	0	0	0	0
172.5°	6	5	4	2	1	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0

(END OF REPORT)