

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: G1-1710-337-11

Luminaire Tested: **B95-VE-BLK-LD4-16W-40-CL-120-EDC1**

Test Date: 11/08/17



Test Information

Test Method: LM-79-08
Report Number: G1-1710-337-11
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-LD4-16W-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 @ 325mA
OT25UNVDIM1F0325

Summary

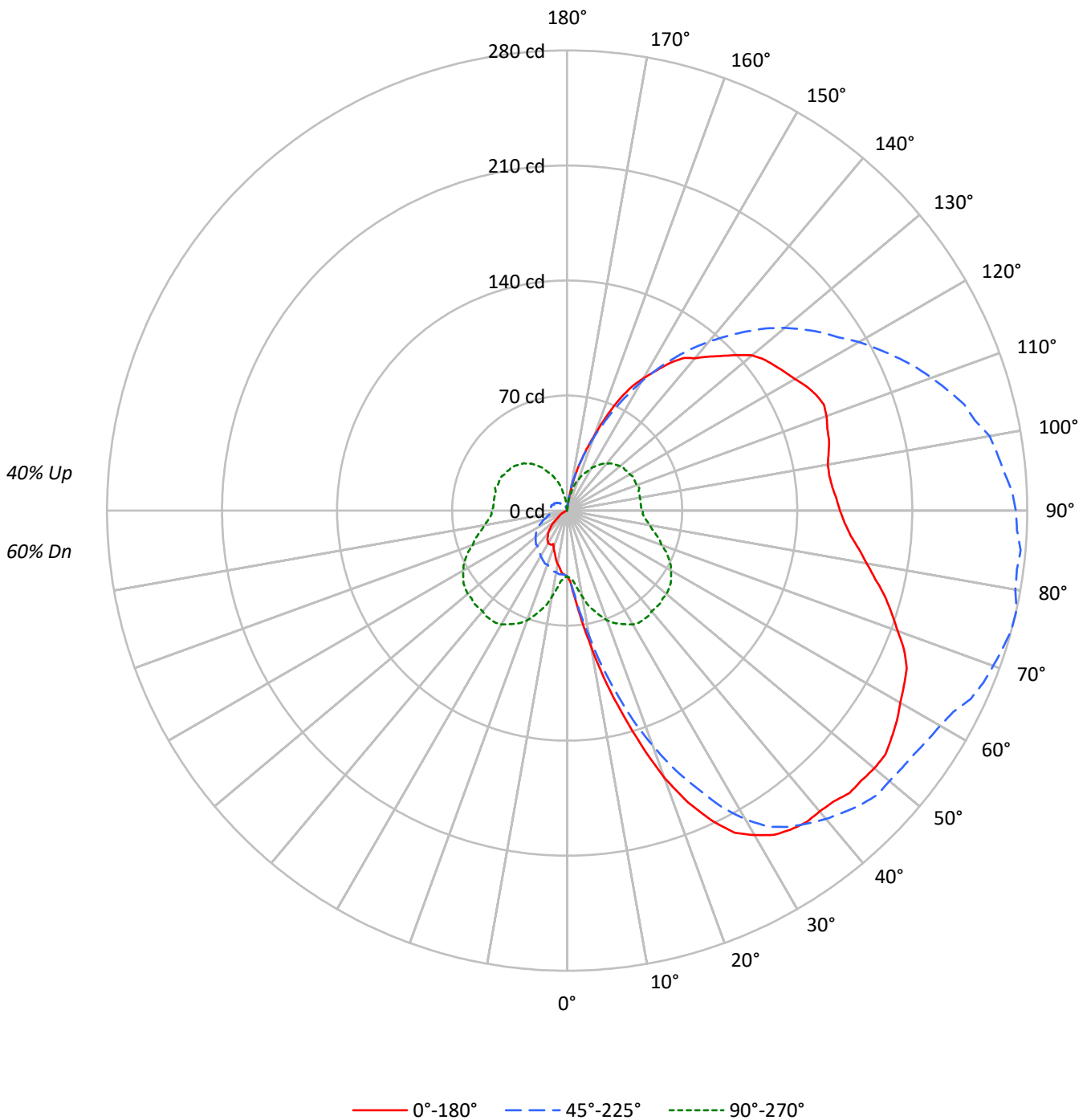
Lumens per Lamp: N/A
Luminaire Lumens: 1172.6 lumens
Efficiency: N/A
Efficacy: 76.1 lumens/watt
Spacing Criteria (0/90/45): 3.06 / 2.44 / 3.15
Luminous Opening: Rectangular w/ Sides (W: 0.35' x L: 0.29' x H: 0.67')
CIE Type: General Diffuse

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): 5.35%
Frequency (hertz): 60
Stabilization Time: 0.5 HR
Operation Time: 7.0 HR
Ambient Temperature (°C): 25.5
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°	4168	4168	4168
5°	4620	3862	3312
10°	6335	4210	2489
15°	8430	4518	1873
20°	10472	4672	1453
25°	11576	4653	1280
30°	11826	4613	1193
35°	11593	4445	1027
40°	11141	4219	839
45°	10898	4090	628
50°	10622	3949	392
55°	10267	3793	256
60°	9834	3571	168
65°	9525	3329	84
70°	8956	3011	0
75°	8449	2809	0
80°	7951	2621	0
85°	7625	2496	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	4.7	0.4
10°-20°	21.2	1.8
20°-30°	47.9	4.1
30°-40°	75.0	6.4
40°-50°	94.9	8.1
50°-60°	108.6	9.3
60°-70°	116.1	9.9
70°-80°	116.8	10.0
80°-90°	113.5	9.7
90°-100°	108.8	9.3
100°-110°	100.9	8.6
110°-120°	88.5	7.5
120°-130°	71.1	6.1
130°-140°	51.7	4.4
140°-150°	32.6	2.8
150°-160°	15.5	1.3
160°-170°	4.5	0.4
170°-180°	0.3	0.0
0°-30°	73.8	6.3
0°-40°	148.8	12.7
0°-60°	352.3	30.0
0°-90°	698.7	59.6
90°-120°	298.2	25.4
90°-150°	453.6	38.7
90°-180°	474.0	40.4
0°-180°	1172.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	40	40	40	40	40	
5°	53	51	43	39	38	6
15°	126	114	63	37	28	37
25°	208	186	76	34	23	96
35°	237	235	81	30	21	148
45°	243	253	80	27	14	187
55°	241	258	77	23	6	216
65°	228	271	68	17	2	224
75°	200	280	56	12	0	211
85°	173	277	47	10	0	144
90°	166	273	46	10	0	91
95°	162	267	45	10	0	132
105°	165	250	45	10	0	174
115°	167	221	45	9	0	165
125°	154	189	43	8	0	138
135°	133	154	40	6	0	104
145°	110	113	34	6	0	69
155°	74	68	25	3	0	34
165°	29	29	15	1	0	9
175°	1	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	40	40	40	40	40	40	40	40	40	40	40
2.5°	43	44	44	43	43	43	43	43	42	42	41
5°	53	53	53	53	52	52	51	49	48	46	44
7.5°	67	67	67	67	66	65	64	60	56	52	49
10°	84	83	84	84	83	82	78	73	67	60	55
12.5°	105	104	104	105	102	101	96	87	79	69	62
15°	126	126	125	126	123	121	114	104	90	77	67
17.5°	149	149	147	150	144	141	134	119	102	86	72
20°	173	171	170	170	165	161	152	135	113	92	76
22.5°	192	192	192	191	184	179	170	149	124	99	80
25°	208	209	209	210	206	199	186	162	133	106	84
27.5°	221	222	224	226	222	216	203	174	141	111	87
30°	228	230	235	240	236	231	217	184	149	116	89
32.5°	234	235	243	250	248	242	228	191	154	119	90
35°	237	240	245	259	258	251	235	199	157	122	91
37.5°	239	242	247	264	266	257	240	204	159	123	91
40°	239	243	251	268	272	263	245	206	160	124	91
42.5°	240	245	255	271	277	268	249	207	162	125	91
45°	243	246	256	271	281	271	253	209	164	125	90
47.5°	243	245	254	274	284	274	256	210	166	126	90
50°	244	246	251	276	287	278	256	212	167	126	90
52.5°	244	247	252	275	287	280	257	213	168	126	89
55°	241	247	254	277	287	283	258	216	169	126	89
57.5°	238	244	257	279	287	285	260	217	169	126	87
60°	234	240	257	278	287	287	262	218	168	125	86
62.5°	231	236	257	277	286	288	265	220	168	123	83
65°	228	231	254	275	287	289	271	221	168	121	80
67.5°	222	226	251	274	289	291	274	222	166	118	77
70°	214	220	246	271	290	295	276	222	165	114	73
72.5°	207	215	241	271	292	297	278	221	163	111	70
75°	200	207	237	272	292	296	280	221	160	107	67
77.5°	192	200	231	270	292	296	280	220	157	104	64
80°	185	193	226	270	290	294	277	217	155	101	62
82.5°	179	186	222	268	289	291	276	216	152	99	59
85°	173	181	219	267	288	292	277	215	150	97	58
87.5°	169	177	217	264	286	288	274	215	149	95	57
90°	166	173	214	261	281	284	273	213	148	94	56
92.5°	164	171	211	256	279	283	271	213	148	94	56
95°	162	169	208	252	274	278	267	210	147	94	56
97.5°	161	169	205	247	270	276	264	208	145	93	56
100°	161	170	203	242	266	272	261	207	145	93	56
102.5°	163	170	203	237	260	265	254	203	143	92	55
105°	165	172	201	232	255	261	250	200	142	92	56
107.5°	166	174	200	229	249	255	243	196	139	91	56
110°	168	172	198	225	243	249	236	192	138	91	56



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
112.5°	169	171	195	220	239	244	229	188	135	90	55
115°	167	169	191	216	233	236	221	181	132	88	55
117.5°	164	167	186	210	228	229	213	175	128	87	55
120°	160	163	180	205	221	221	205	170	125	86	54
122.5°	157	160	172	198	213	213	196	164	121	84	54
125°	154	156	165	191	206	204	189	156	117	82	53
127.5°	151	153	159	182	198	194	181	148	112	79	52
130°	147	147	152	172	188	185	173	141	108	77	51
132.5°	140	141	147	164	179	174	164	133	103	74	50
135°	133	134	141	156	168	164	154	126	97	71	49
137.5°	127	128	134	149	158	154	144	119	92	68	47
140°	121	123	127	141	148	144	134	111	86	65	45
142.5°	117	117	120	132	136	134	124	104	81	61	43
145°	110	110	114	121	124	122	113	95	76	57	40
147.5°	101	102	106	109	111	109	102	87	69	53	38
150°	93	94	95	97	98	96	91	77	62	49	35
152.5°	85	85	83	85	84	84	79	68	56	44	33
155°	74	74	72	73	72	71	68	60	50	39	30
157.5°	61	60	60	61	61	60	57	51	43	34	27
160°	49	49	49	50	50	49	47	42	36	30	23
162.5°	39	39	38	39	40	39	38	35	30	25	20
165°	29	29	29	30	30	30	29	27	24	20	16
167.5°	21	20	20	21	22	22	22	20	18	15	13
170°	12	13	13	14	15	15	15	14	13	11	9
172.5°	5	5	5	6	8	8	8	8	7	7	6
175°	1	1	1	1	0	0	0	0	1	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



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CATALOG NUMBER: B95-VE-BLK-LD4-16W-40-CL-120-EDC1

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	40	40	40	40	40	40	40	40	40	40	40
2.5°	41	41	40	40	39	39	39	39	39	39	39
5°	43	43	42	41	40	39	39	38	38	38	38
7.5°	48	47	45	43	41	39	37	36	36	36	35
10°	53	51	48	45	42	38	35	34	33	33	33
12.5°	59	56	52	48	42	38	34	32	31	30	31
15°	63	60	55	49	43	37	33	30	28	28	28
17.5°	67	64	58	50	43	36	31	28	27	26	26
20°	71	66	59	51	43	35	29	26	25	24	24
22.5°	74	69	61	52	43	35	28	24	23	23	22
25°	76	71	62	52	43	34	27	23	23	23	23
27.5°	78	73	64	53	43	33	25	23	23	23	23
30°	80	74	64	54	43	32	25	23	23	23	23
32.5°	81	75	65	54	42	31	25	23	23	22	22
35°	81	75	65	54	41	30	25	22	22	21	21
37.5°	81	75	65	53	40	30	24	22	21	20	19
40°	80	75	65	52	38	28	24	20	19	18	18
42.5°	80	74	65	51	36	28	23	19	17	16	16
45°	80	74	64	49	34	27	22	17	15	14	14
47.5°	79	73	63	47	32	26	20	15	13	12	12
50°	79	73	62	45	31	25	19	13	11	10	9
52.5°	78	72	60	42	29	24	17	11	9	8	7
55°	77	71	59	41	28	23	15	9	7	6	6
57.5°	75	69	57	38	27	22	13	7	5	5	5
60°	73	68	55	36	26	20	11	5	4	4	4
62.5°	71	65	52	33	25	19	10	4	3	3	3
65°	68	62	49	32	24	17	8	2	1	2	2
67.5°	65	59	47	30	23	16	7	1	1	1	1
70°	61	56	43	28	22	14	5	0	0	0	0
72.5°	59	53	40	27	20	13	4	0	0	0	0
75°	56	50	37	25	19	12	4	0	0	0	0
77.5°	53	47	34	23	18	11	3	0	0	0	0
80°	51	45	32	22	17	10	3	0	0	0	0
82.5°	49	43	30	21	16	10	3	0	0	0	0
85°	47	41	28	20	16	10	3	0	0	0	0
87.5°	46	41	28	20	16	10	3	0	0	0	0
90°	46	40	27	20	16	10	3	0	0	0	0
92.5°	45	40	27	20	16	10	3	0	0	0	0
95°	45	40	28	20	16	10	3	0	0	0	0
97.5°	45	40	28	20	16	10	3	0	0	0	0
100°	45	40	28	20	16	10	3	0	0	0	0
102.5°	45	40	29	20	16	10	3	0	0	0	0
105°	45	40	29	21	16	10	3	0	0	0	0
107.5°	46	40	29	21	16	10	3	0	0	0	0
110°	45	40	30	21	16	10	3	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	45	40	30	21	15	9	3	0	0	0	0
115°	45	40	30	21	15	9	3	0	0	0	0
117.5°	45	39	30	21	15	9	3	0	0	0	0
120°	44	38	30	21	14	9	2	0	0	0	0
122.5°	44	38	30	21	14	8	2	0	0	0	0
125°	43	38	30	21	14	8	2	0	0	0	0
127.5°	43	37	29	21	13	8	2	0	0	0	0
130°	42	36	29	21	13	7	2	0	0	0	0
132.5°	41	35	28	21	13	7	2	0	0	0	0
135°	40	34	27	20	13	6	2	0	0	0	0
137.5°	39	33	26	19	12	6	1	0	0	0	0
140°	37	32	24	18	12	6	1	0	0	0	0
142.5°	36	30	22	17	11	6	1	0	0	0	0
145°	34	28	20	15	11	6	1	0	0	0	0
147.5°	32	27	19	14	9	5	1	0	0	0	0
150°	30	25	17	13	8	4	1	0	0	0	0
152.5°	27	23	16	11	7	4	0	0	0	0	0
155°	25	22	15	10	6	3	0	0	0	0	0
157.5°	23	20	14	9	6	3	0	0	0	0	0
160°	20	18	13	9	5	2	0	0	0	0	0
162.5°	18	15	11	8	4	2	0	0	0	0	0
165°	15	13	9	7	4	1	0	0	0	0	0
167.5°	11	10	8	5	3	1	0	0	0	0	0
170°	8	7	5	4	2	0	0	0	0	0	0
172.5°	5	4	3	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)