

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: G1-1710-337-7

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

Test Date: 11/21/17



Test Information

Test Method: LM-79-08
Report Number: G1-1710-337-7
Test Lab: INNOVATION CENTER(G1)
Test Date: 11/21/17
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: B95-HE-BLK-LD4-16W-40-CL-120-EDC1
Description: VR 2000 BRICK LED WITH CLEAR LENS & HORIZONTAL EYELID FLAT BLACK.
Light Source: (56) NICHIA 4000K LEDS
1FS402256M8404
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER @ 325mA
OT25UNVDIM1F0325

Summary

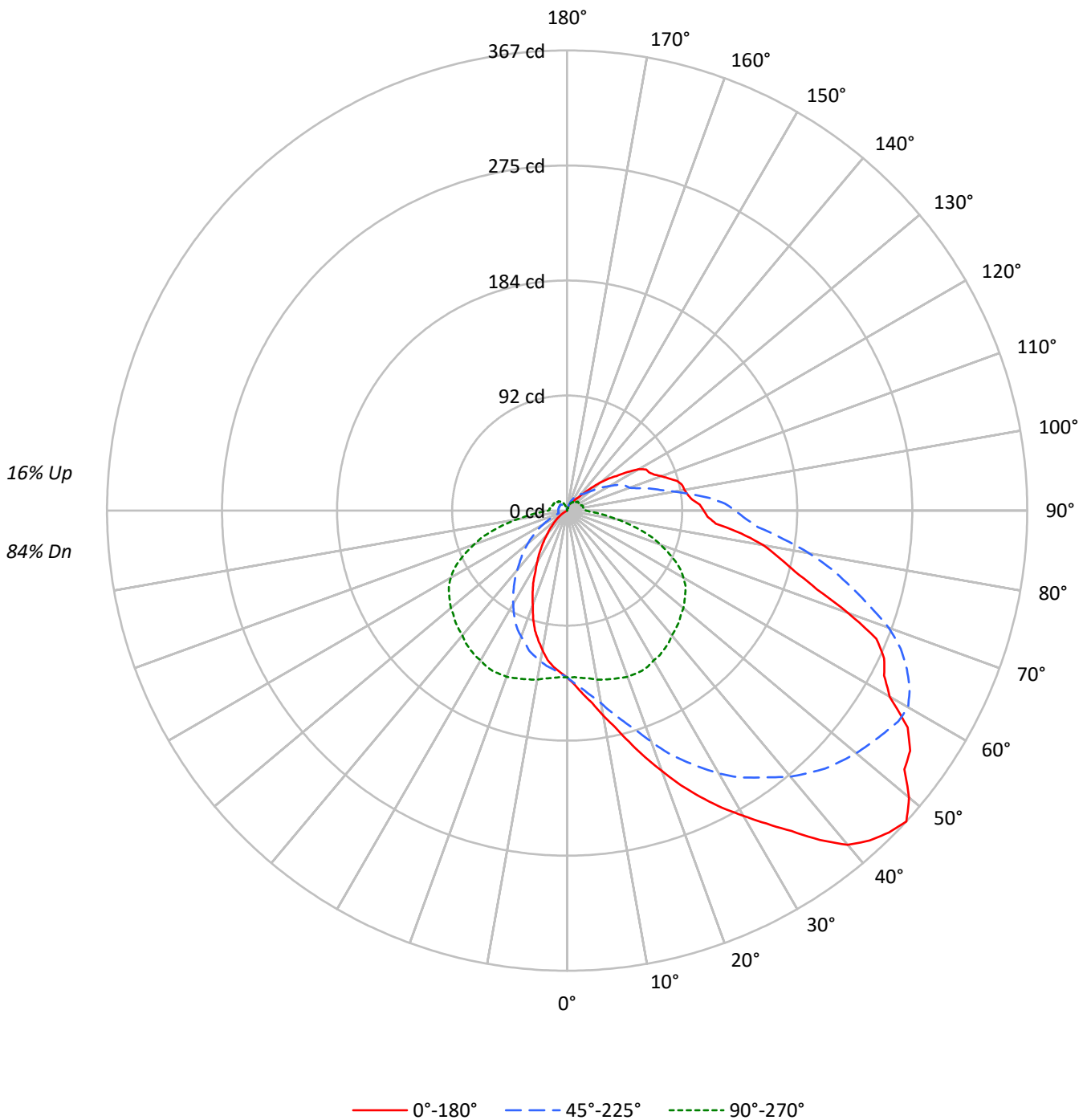
Lumens per Lamp: N/A
Luminaire Lumens: 974.3 lumens
Efficiency: N/A
Efficacy: 63.3 lumens/watt
Spacing Criteria (0/90/45): 2.01 / 1.53 / 2.01
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 0.29' x H: 0.35')
CIE Type: Semi-Direct

Input Watts (W): 15.4
Input Voltage (V): 120.0
Input Current (A_{in}): 0.128
Voltage Rise (V): NR
Power Factor: 0.9969
Total Harmonic Distortion (THDi): 5.37%
Frequency (hertz): 60
Stabilization Time: 0.5 HR
Operation Time: 7.0 HR
Ambient Temperature (°C): 24.6
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			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	115	115	115	115	111	111	111	111	102	102	102	95	95	95	88	88	88	84
1	101	95	89	84	97	91	86	81	84	80	76	77	74	71	71	68	66	63
2	90	80	72	65	86	77	69	63	71	64	59	65	60	55	60	55	52	48
3	81	69	59	52	77	66	57	50	60	53	47	56	49	44	51	46	42	38
4	73	60	50	42	70	57	48	41	53	45	39	48	42	36	44	39	34	31
5	67	52	42	35	63	50	41	34	46	38	32	43	36	30	39	33	29	26
6	61	47	37	30	58	45	36	29	41	33	27	38	31	26	35	29	25	22
7	56	42	32	26	54	40	31	25	37	29	24	34	28	22	32	26	21	19
8	52	38	29	22	50	36	28	22	34	26	21	31	24	20	29	23	19	16
9	49	34	26	20	46	33	25	19	31	23	18	29	22	17	26	21	16	14
10	45	31	23	17	43	30	22	17	28	21	16	26	20	15	24	19	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7363	7363	7363
5°	7384	7115	6279
10°	7686	7041	5232
15°	8259	6973	4281
20°	9029	6960	3268
25°	9828	6902	2496
30°	10559	6751	1804
35°	11395	6650	1315
40°	12456	6498	895
45°	12834	6442	601
50°	12529	6381	387
55°	11790	6311	212
60°	10596	6170	71
65°	10140	5817	0
70°	8884	5199	0
75°	7269	4374	0
80°	6427	3257	0
85°	5080	2245	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	13.0	1.3
10°-20°	40.8	4.2
20°-30°	71.4	7.3
30°-40°	102.0	10.5
40°-50°	129.4	13.3
50°-60°	142.1	14.6
60°-70°	136.9	14.1
70°-80°	110.5	11.3
80°-90°	75.6	7.8
90°-100°	53.6	5.5
100°-110°	36.9	3.8
110°-120°	26.3	2.7
120°-130°	17.3	1.8
130°-140°	9.6	1.0
140°-150°	5.4	0.6
150°-160°	2.6	0.3
160°-170°	0.7	0.1
170°-180°	0.0	0.0
0°-30°	125.3	12.9
0°-40°	227.3	23.3
0°-60°	498.8	51.2
0°-90°	821.9	84.4
90°-120°	116.8	12.0
90°-150°	149.1	15.3
90°-180°	152.0	15.6
0°-180°	974.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	133	133	133	133	133	
5°	147	143	134	127	125	15
15°	191	174	139	116	99	55
25°	252	220	141	98	64	117
35°	312	260	135	74	36	198
45°	363	291	126	51	17	279
55°	334	309	115	31	6	296
65°	279	299	95	15	0	272
75°	188	234	61	7	0	203
85°	119	153	25	7	0	107
90°	109	134	15	7	0	60
95°	100	114	14	7	0	81
105°	91	68	13	7	0	95
115°	72	49	12	7	0	72
125°	48	31	11	7	0	45
135°	21	19	10	7	0	17
145°	10	15	8	5	0	7
155°	7	9	6	3	0	3
165°	3	3	2	1	0	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	4°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	133	133	133	133	133	133	133	133	133	133	133
2.5°	139	140	139	139	139	138	138	137	136	135	134
5°	147	148	147	147	146	144	143	141	139	137	135
7.5°	155	156	155	155	154	152	149	146	143	140	136
10°	166	166	166	165	163	161	156	152	148	143	138
12.5°	177	178	178	177	174	170	165	159	153	146	140
15°	191	192	192	191	186	180	174	166	158	150	142
17.5°	206	207	206	205	200	193	184	174	164	153	144
20°	221	222	221	219	215	208	196	183	169	156	146
22.5°	237	238	237	235	228	221	209	192	176	160	147
25°	252	251	251	249	244	234	220	202	182	163	147
27.5°	267	266	266	262	257	248	231	212	189	166	147
30°	281	282	282	277	269	257	242	221	195	169	146
32.5°	296	298	297	292	283	268	252	229	201	171	146
35°	312	313	313	307	297	281	260	237	207	174	146
37.5°	331	331	330	323	310	292	268	243	211	175	144
40°	348	349	347	340	325	303	277	248	216	177	143
42.5°	357	359	359	352	338	312	284	254	221	180	142
45°	363	365	365	358	347	323	291	259	225	182	141
47.5°	367	369	368	364	350	328	296	264	228	184	140
50°	356	358	357	362	352	330	301	266	229	185	138
52.5°	339	339	339	343	351	331	305	270	230	186	137
55°	334	336	335	332	336	334	309	274	232	186	135
57.5°	322	327	326	330	323	330	313	279	236	187	133
60°	297	301	301	313	318	314	314	282	237	187	130
62.5°	285	286	286	288	305	302	308	280	237	184	125
65°	279	280	279	279	287	297	299	279	235	178	119
67.5°	267	268	268	271	275	288	288	278	233	173	112
70°	238	242	241	255	261	268	273	272	229	167	102
72.5°	209	212	213	229	241	242	253	257	220	157	93
75°	188	191	191	205	225	223	234	237	208	145	83
77.5°	173	173	174	187	205	211	216	220	193	133	72
80°	159	160	161	172	184	196	196	200	180	121	61
82.5°	140	141	142	156	163	176	174	180	164	108	51
85°	119	121	121	139	147	154	153	158	144	92	41
87.5°	112	113	113	126	139	142	142	142	125	77	31
90°	109	110	110	121	135	137	134	130	112	66	25
92.5°	106	107	107	118	130	130	126	118	98	57	22
95°	100	102	102	111	120	120	114	104	83	49	20
97.5°	97	98	98	105	108	106	100	89	71	45	19
100°	95	95	95	98	97	94	87	77	64	42	19
102.5°	94	93	93	92	89	84	76	67	59	40	18
105°	91	90	89	86	81	74	68	62	54	37	18
107.5°	85	85	84	77	71	64	59	56	49	34	17
110°	80	79	79	71	62	56	53	50	44	31	16



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

CANDELA DISTRIBUTION (continued):

	0°	4°	5°	15°	25°	35°	45°	55°	65°	75°	85°
112.5°	75	75	74	68	59	53	51	48	41	29	15
115°	72	72	72	67	58	51	49	46	40	27	15
117.5°	71	71	70	65	54	47	44	41	36	25	14
120°	66	66	66	60	48	41	39	36	32	23	14
122.5°	57	57	57	54	44	36	35	33	28	21	13
125°	48	49	49	47	40	33	31	29	26	19	13
127.5°	42	42	42	41	37	30	27	26	23	17	12
130°	35	35	35	34	32	26	24	22	20	16	11
132.5°	28	28	28	28	26	23	21	20	19	15	11
135°	21	21	21	22	22	21	19	19	17	14	10
137.5°	16	16	16	17	18	19	18	18	16	13	10
140°	13	14	13	14	16	17	17	17	15	12	9
142.5°	12	12	12	13	14	15	16	16	14	12	9
145°	10	11	10	12	13	14	15	15	13	11	9
147.5°	9	9	9	10	12	13	14	13	12	10	8
150°	8	9	9	10	11	12	12	12	11	9	7
152.5°	8	8	8	9	10	10	11	10	9	8	7
155°	7	7	7	8	8	9	9	9	8	7	6
157.5°	6	6	6	7	7	8	8	7	6	5	5
160°	5	5	5	6	6	6	6	6	5	4	4
162.5°	4	4	4	5	5	5	5	4	4	3	3
165°	3	4	4	4	4	4	3	3	3	3	2
167.5°	2	3	3	3	3	3	3	2	2	2	2
170°	2	2	2	2	2	2	2	1	1	1	1
172.5°	1	1	1	1	1	1	1	1	1	1	1
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



TEST NUMBER: G1-1710-337-7

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

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	133	133	133	133	133	133	133	133	133	133	133
2.5°	133	133	132	131	130	130	129	129	129	129	129
5°	134	133	132	130	129	127	126	126	125	125	125
7.5°	135	134	131	129	127	125	123	121	120	120	120
10°	137	134	131	128	125	122	119	116	114	114	113
12.5°	138	135	131	128	123	119	115	111	108	106	106
15°	139	136	131	127	121	116	109	104	101	99	99
17.5°	140	136	131	125	119	111	104	97	93	90	90
20°	141	137	131	124	116	107	98	90	84	81	80
22.5°	141	136	130	123	113	103	92	82	75	73	72
25°	141	135	129	121	110	98	85	74	67	64	64
27.5°	140	134	127	119	106	92	78	67	59	57	55
30°	138	132	124	115	102	86	71	60	52	49	48
32.5°	137	130	122	112	97	80	65	53	46	43	42
35°	135	128	119	109	92	74	59	47	40	36	36
37.5°	133	125	116	104	87	68	53	41	34	31	30
40°	130	122	113	100	81	62	47	36	29	25	25
42.5°	128	119	109	96	76	56	42	30	24	21	21
45°	126	116	106	91	70	51	36	26	19	17	17
47.5°	123	113	101	86	65	46	31	21	16	14	14
50°	121	110	97	81	59	41	27	18	13	12	11
52.5°	118	106	92	76	54	36	23	15	11	9	9
55°	115	102	87	70	49	31	19	12	8	6	6
57.5°	112	98	82	65	44	27	16	9	5	4	4
60°	107	93	77	59	38	22	13	6	3	2	2
62.5°	102	87	70	53	33	18	9	4	1	0	0
65°	95	81	63	46	27	15	7	2	0	0	0
67.5°	87	74	56	40	22	11	5	1	0	0	0
70°	79	65	48	33	18	9	3	0	0	0	0
72.5°	71	57	40	26	14	7	3	0	0	0	0
75°	61	48	33	20	11	7	3	1	0	0	0
77.5°	51	40	26	16	11	7	3	1	0	0	0
80°	41	31	20	14	11	7	3	1	0	0	0
82.5°	32	25	17	13	10	7	3	1	0	0	0
85°	25	19	16	13	10	7	3	1	0	0	0
87.5°	18	15	15	13	10	7	3	1	0	0	0
90°	15	15	15	13	10	7	3	1	0	0	0
92.5°	14	15	14	13	10	7	3	1	0	0	0
95°	14	14	14	13	10	7	3	1	0	0	0
97.5°	14	14	14	13	11	7	3	1	0	0	0
100°	13	14	14	13	10	7	3	1	0	0	0
102.5°	13	14	14	13	10	7	4	1	0	0	0
105°	13	13	14	12	10	7	4	1	0	0	0
107.5°	13	13	13	12	10	7	4	1	0	0	0
110°	12	13	13	12	10	7	4	1	0	0	0



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

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	12	13	13	12	10	7	4	1	0	0	0
115°	12	12	13	12	10	7	4	1	0	0	0
117.5°	12	12	13	12	10	7	4	1	0	0	0
120°	12	12	13	12	10	7	4	1	0	0	0
122.5°	11	12	13	12	10	7	4	1	0	0	0
125°	11	12	12	12	10	7	4	1	0	0	0
127.5°	11	11	12	11	10	7	5	1	0	0	0
130°	11	11	12	11	9	7	4	1	0	0	0
132.5°	10	11	11	11	9	7	4	1	0	0	0
135°	10	11	11	11	9	7	4	1	0	0	0
137.5°	10	10	11	10	9	6	4	1	0	0	0
140°	9	10	10	10	8	6	4	1	0	0	0
142.5°	9	9	10	10	8	6	4	1	0	0	0
145°	8	8	9	9	7	5	3	1	0	0	0
147.5°	8	8	9	8	7	5	3	1	0	0	0
150°	7	7	8	7	6	5	3	1	0	0	0
152.5°	7	7	7	6	5	4	3	1	0	0	0
155°	6	6	6	6	5	3	2	1	0	0	0
157.5°	5	5	5	5	4	3	2	1	0	0	0
160°	4	4	4	4	3	2	1	0	0	0	0
162.5°	3	3	3	3	3	2	1	0	0	0	0
165°	2	2	2	2	2	1	1	0	0	0	0
167.5°	2	2	2	2	1	1	0	0	0	0	0
170°	1	1	1	1	1	0	0	0	0	0	0
172.5°	1	1	1	0	0	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)