

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: G1-1710-337-4-DN

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

Test Date: 11/07/17



Test Information

Test Method: LM-79-08
Report Number: G1-1710-337-4-DN
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-LD4-20W-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 @ 400mA
OT25UNVDIM1F0400

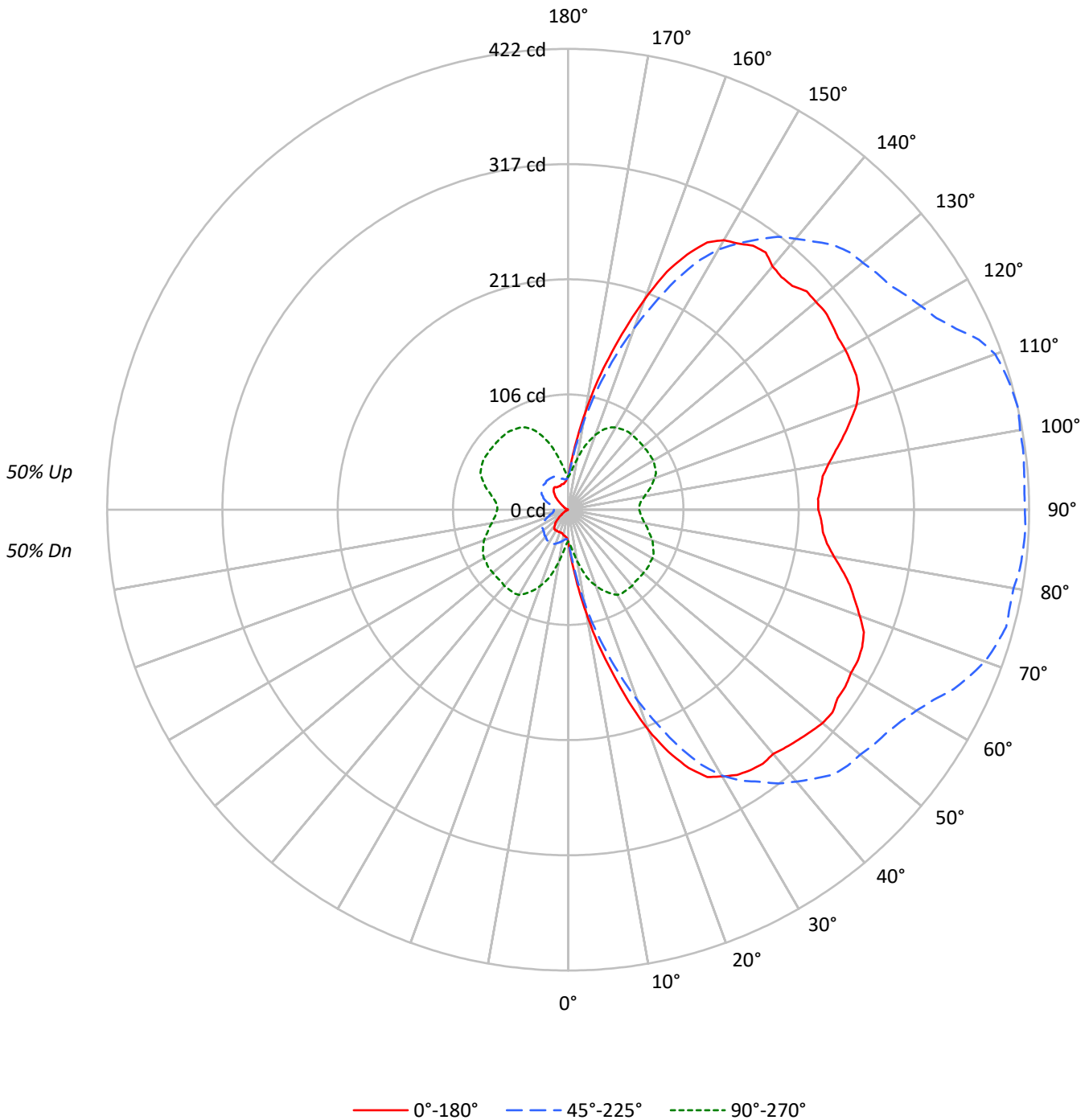
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1861.7 lumens
Efficiency: N/A
Efficacy: 98.0 lumens/watt
Spacing Criteria (0/90/45): 3.88 / 3.07 / 4.15
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): 5.0%
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			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	93	87	81	76	85	80	75	70	66	63	59	54	51	48	42	40	38	33
2	83	73	65	59	76	67	60	54	55	50	45	45	41	37	35	32	29	24
3	75	63	54	47	68	58	50	43	47	41	36	38	33	29	29	26	23	18
4	68	55	45	38	61	50	42	35	41	35	29	33	28	24	25	21	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	9
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	28	21	16	24	18	13	19	14	11	15	11	8	6
10	41	28	20	15	38	26	19	14	22	16	12	17	13	9	14	10	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	3022	3022	3022
5°	4620	3143	2179
10°	7240	3813	1810
15°	10169	4518	1472
20°	13014	4870	1332
25°	14526	5082	1224
30°	14627	5189	1141
35°	14235	4994	1076
40°	13612	4799	886
45°	13365	4601	718
50°	13233	4498	479
55°	12823	4433	298
60°	12566	4354	168
65°	12408	4210	84
70°	11885	4048	0
75°	11279	3813	0
80°	10615	3649	0
85°	10314	3558	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	4.2	0.2
10°-20°	23.1	1.2
20°-30°	57.5	3.1
30°-40°	92.8	5.0
40°-50°	120.3	6.5
50°-60°	143.0	7.7
60°-70°	159.0	8.5
70°-80°	165.7	8.9
80°-90°	165.6	8.9
90°-100°	166.0	8.9
100°-110°	167.5	9.0
110°-120°	160.4	8.6
120°-130°	142.3	7.6
130°-140°	119.4	6.4
140°-150°	92.3	5.0
150°-160°	56.2	3.0
160°-170°	22.3	1.2
170°-180°	4.1	0.2
0°-30°	84.8	4.6
0°-40°	177.6	9.5
0°-60°	441.0	23.7
0°-90°	931.3	50.0
90°-120°	493.9	26.5
90°-150°	847.8	45.5
90°-180°	930.0	50.0
0°-180°	1861.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	29	29	29	29	29	
5°	53	48	35	27	25	6
15°	152	134	63	31	22	45
25°	261	239	83	34	22	120
35°	291	304	91	34	22	182
45°	298	343	90	31	16	231
55°	301	356	90	29	7	271
65°	297	389	86	24	2	293
75°	267	415	76	17	0	281
85°	234	418	67	13	0	194
90°	229	418	65	13	0	126
95°	232	419	66	14	0	191
105°	261	421	78	17	0	276
115°	291	392	88	25	2	287
125°	295	359	90	30	6	265
135°	290	343	90	32	16	226
145°	295	302	89	33	23	184
155°	258	231	82	33	23	119
165°	144	126	61	30	24	43
175°	51	47	36	28	26	6
180°	30	30	30	30	30	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	29	29	29	29	29	29	29	29	29	29	29
2.5°	38	38	38	37	37	36	35	34	33	31	31
5°	53	52	52	52	51	48	46	43	40	37	35
7.5°	73	72	73	72	70	66	61	55	49	44	41
10°	96	97	96	95	92	87	79	69	59	52	48
12.5°	125	126	124	122	119	110	97	84	72	60	55
15°	152	153	152	152	146	134	119	101	84	69	63
17.5°	184	186	182	183	174	160	140	118	95	76	69
20°	215	217	214	213	205	186	163	135	106	84	74
22.5°	240	241	242	241	233	212	185	149	116	89	79
25°	261	262	265	265	259	239	204	161	124	95	83
27.5°	276	278	285	287	282	263	219	174	133	100	87
30°	282	287	299	305	306	281	233	186	140	103	90
32.5°	288	291	309	318	326	294	249	194	144	105	91
35°	291	294	311	328	340	304	261	197	146	105	91
37.5°	293	297	315	338	353	316	267	198	148	106	91
40°	292	299	322	345	361	325	268	202	151	105	91
42.5°	295	300	325	350	367	334	269	205	152	105	90
45°	298	304	326	355	377	343	274	210	154	105	90
47.5°	301	306	325	363	385	347	279	215	154	105	90
50°	304	309	324	370	392	349	283	218	155	105	90
52.5°	305	312	329	376	395	353	291	222	157	105	90
55°	301	312	336	383	400	356	296	222	158	105	90
57.5°	301	309	341	390	405	361	301	224	159	104	89
60°	299	308	344	391	406	368	306	227	159	103	89
62.5°	299	305	348	389	407	377	312	230	159	102	88
65°	297	302	349	387	409	389	317	231	157	100	86
67.5°	293	299	345	384	412	398	321	230	154	98	84
70°	284	295	341	384	419	406	321	229	150	96	82
72.5°	275	290	337	387	425	411	323	228	146	93	79
75°	267	283	331	392	430	415	324	225	143	90	76
77.5°	257	272	325	397	431	414	321	223	139	88	74
80°	247	259	321	402	434	414	318	218	136	85	71
82.5°	239	252	321	405	436	417	317	216	133	83	69
85°	234	246	323	405	436	418	316	211	130	81	67
87.5°	232	243	322	406	437	419	315	210	128	80	66
90°	229	243	320	406	435	418	316	211	128	79	65
92.5°	229	243	320	406	437	418	316	213	129	79	65
95°	232	245	319	406	438	419	318	214	131	80	66
97.5°	235	251	321	404	441	420	318	218	133	83	68
100°	242	259	324	401	440	420	322	222	136	85	71
102.5°	251	269	330	397	441	422	323	224	140	88	74
103°	253	270	331	396	441	422	323	225	141	89	75
105°	261	279	337	392	439	421	325	228	145	92	78
107.5°	271	285	343	390	434	419	328	231	149	95	81



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

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
110°	281	289	347	390	426	416	326	234	154	99	84
112.5°	288	293	347	388	420	407	325	234	157	102	87
115°	291	297	347	390	418	392	318	235	159	104	88
117.5°	292	298	344	388	416	380	314	232	160	105	89
120°	293	300	336	385	413	373	310	229	160	106	90
122.5°	293	301	330	382	409	366	305	226	159	106	90
125°	295	302	324	379	405	359	296	222	157	106	90
127.5°	297	300	319	375	399	356	289	218	155	106	90
130°	296	298	321	366	391	352	281	216	154	105	90
132.5°	296	297	321	360	385	349	273	213	151	105	90
135°	290	294	322	357	374	343	268	209	151	105	90
137.5°	289	294	319	355	367	333	265	204	151	105	90
140°	291	298	317	351	358	324	265	198	148	104	90
142.5°	297	302	317	343	350	315	264	196	146	104	90
145°	295	299	320	331	340	302	255	194	144	104	89
147.5°	289	294	313	317	322	289	243	190	141	102	88
150°	285	288	299	300	303	275	228	181	137	100	87
152.5°	276	276	282	282	281	256	212	169	130	97	85
155°	258	257	261	261	251	231	197	156	121	93	82
157.5°	236	235	235	234	223	203	178	144	112	88	78
160°	205	205	205	205	196	177	155	129	103	81	73
162.5°	174	175	175	175	167	151	133	113	91	74	67
165°	144	144	145	144	139	126	112	96	80	66	61
167.5°	117	116	116	116	113	103	93	80	69	58	54
170°	91	90	90	90	87	82	74	66	58	50	47
172.5°	68	69	69	68	66	62	58	53	48	43	41
175°	51	50	50	49	49	47	45	42	39	37	36
177.5°	38	37	37	37	36	36	35	34	33	32	32
180°	30	30	30	30	30	30	30	30	30	30	30



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

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	29	29	29	29	29	29	29	29	29	29
2.5°	30	29	28	27	27	26	26	25	25	26
5°	34	32	30	28	27	26	26	25	25	25
7.5°	39	36	33	30	28	26	25	24	24	24
10°	45	40	36	32	29	26	24	24	24	24
12.5°	51	45	40	34	30	26	24	23	23	23
15°	57	50	43	36	31	26	24	23	23	22
17.5°	63	54	46	38	32	26	23	22	22	22
20°	67	58	49	40	33	26	23	22	22	22
22.5°	72	61	51	42	34	27	23	22	22	22
25°	75	63	53	43	34	26	22	22	22	22
27.5°	78	66	55	44	34	26	22	22	22	22
30°	80	67	56	45	35	26	22	23	22	22
32.5°	81	69	57	45	34	26	22	23	22	22
35°	82	70	58	45	34	26	22	22	22	22
37.5°	82	71	58	45	33	26	22	22	21	21
40°	82	71	58	44	32	25	21	20	20	19
42.5°	82	71	57	42	32	25	20	19	18	18
45°	82	71	56	40	31	24	19	17	16	16
47.5°	82	70	54	39	30	23	17	15	13	13
50°	83	70	52	38	30	22	15	13	11	11
52.5°	82	69	50	37	29	21	13	10	9	8
55°	81	68	48	36	29	19	11	8	7	7
57.5°	81	66	46	35	28	17	9	6	6	5
60°	80	65	45	34	27	15	7	5	4	4
62.5°	79	62	43	34	25	13	5	3	3	3
65°	77	60	41	33	24	11	3	2	2	2
67.5°	75	56	40	32	22	10	2	1	1	1
70°	72	54	38	30	20	8	0	0	0	0
72.5°	69	51	36	29	18	6	0	0	0	0
75°	67	48	35	28	17	5	0	0	0	0
77.5°	64	45	33	26	15	5	0	0	0	0
80°	61	42	31	25	14	5	0	0	0	0
82.5°	59	40	30	24	14	4	0	0	0	0
85°	57	38	29	23	13	4	0	0	0	0
87.5°	56	38	29	23	13	4	0	0	0	0
90°	56	38	29	23	13	4	0	0	0	0
92.5°	56	38	29	23	14	4	0	0	0	0
95°	57	39	30	23	14	4	0	0	0	0
97.5°	58	41	31	24	14	4	0	0	0	0
100°	61	43	32	25	15	4	0	0	0	0
102.5°	64	46	33	26	15	5	0	0	0	0
103°	65	46	34	27	16	5	0	0	0	0
105°	68	49	35	28	17	5	0	0	0	0
107.5°	71	52	37	29	18	6	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	74	56	39	31	21	8	0	0	0	0
112.5°	77	58	41	32	23	10	1	0	0	1
115°	78	61	42	34	25	12	3	2	1	2
117.5°	80	63	44	35	26	14	5	3	2	3
120°	80	65	45	35	28	16	7	4	4	4
122.5°	80	66	47	36	29	18	9	6	5	5
125°	81	67	48	37	30	20	11	8	6	6
127.5°	81	68	50	37	31	21	13	10	8	8
130°	81	68	51	38	31	23	15	12	10	10
132.5°	81	69	53	39	31	24	18	15	13	13
135°	81	69	54	40	32	25	20	17	16	16
137.5°	81	69	55	41	32	26	21	19	18	18
140°	81	68	56	42	32	26	22	21	20	20
142.5°	80	68	56	43	33	26	23	22	22	22
145°	80	67	56	44	33	26	24	24	23	23
147.5°	79	65	55	44	33	26	23	24	24	24
150°	78	64	53	43	33	26	23	24	24	24
152.5°	76	63	52	42	33	26	23	23	23	23
155°	74	62	51	42	33	26	23	23	23	23
157.5°	71	60	49	40	33	27	23	23	23	23
160°	67	57	47	39	32	27	24	23	23	23
162.5°	62	54	45	37	31	26	24	23	23	23
165°	57	49	42	36	30	26	24	24	24	24
167.5°	51	45	39	34	29	26	24	24	24	24
170°	45	40	36	32	29	26	25	25	25	24
172.5°	39	36	33	31	28	27	26	25	25	25
175°	35	33	31	29	28	27	27	26	26	26
177.5°	31	30	30	29	28	28	28	27	27	28
180°	30	30	30	30	30	30	30	30	30	30

(END OF REPORT)