

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: 168P128

Luminaire Tested: **CFF-12-120-1K12-EB81-8/FST-SSN-MOD**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 168P128
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: CFF-12-120-1K12-EB81-8/FST-SSN-MOD
Description: 1 X 4 FAIL-SAFE SERIES
WITH A K-12 PRISMATIC ACRYLIC LENS
AND A STAINLESS STEEL DOOR/BRUSHED 304 FINISH
Light Source: THREE - FO32/35K - 2800 LUMENS EA. - 32 WATTS EA.
Ballast/Driver: MOTOROLA M3-IN-T8-GP-D-120 ELECTRONIC
L.O.B.F. = 85.4%

Summary

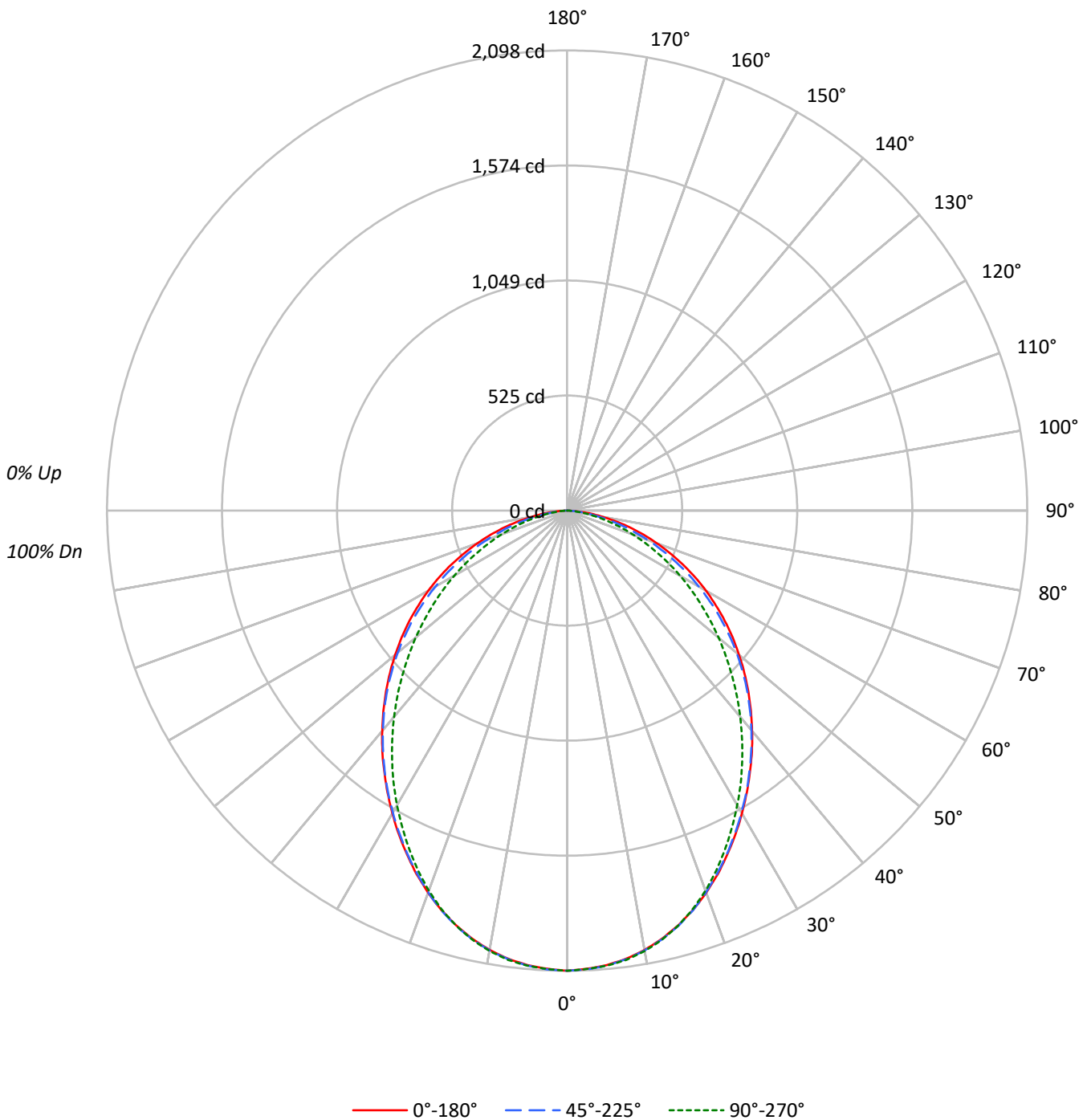
Lumens per Lamp: 2800 (3 lamps)
Luminaire Lumens: 4906.3 lumens
Efficiency: 58.4%
Efficacy: 64.6 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.12 / 1.26
Luminous Opening: Rectangular (W 0.66' x L: 3.75' x H: 0')
CIE Type: Direct

Input Watts (W): 76
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
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	70	70	70	70	68	68	68	68	65	65	65	62	62	62	60	60	60	58
1	64	61	59	57	62	60	58	56	58	56	54	55	54	53	53	52	51	50
2	59	54	50	47	57	53	49	46	51	48	45	49	47	44	47	45	43	42
3	54	48	43	40	52	47	43	39	45	41	39	43	40	38	42	39	37	36
4	49	43	38	34	48	42	37	34	40	36	33	39	36	33	38	35	32	31
5	45	38	33	29	44	38	33	29	36	32	29	35	32	29	34	31	28	27
6	42	35	29	26	41	34	29	26	33	29	26	32	28	25	31	28	25	24
7	39	31	26	23	38	31	26	23	30	26	23	29	25	23	28	25	22	21
8	36	29	24	21	36	28	24	21	28	23	20	27	23	20	26	23	20	19
9	34	26	22	19	33	26	22	19	25	21	19	25	21	18	24	21	18	17
10	32	25	20	17	31	24	20	17	24	20	17	23	19	17	23	19	17	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9124	9124	9124
5°	9081	9089	9094
10°	8982	8991	9005
15°	8811	8825	8816
20°	8581	8571	8534
25°	8297	8278	8172
30°	8005	7985	7789
35°	7720	7698	7390
40°	7449	7420	6966
45°	7184	7141	6532
50°	6922	6820	6096
55°	6657	6460	5641
60°	6358	6045	5175
65°	5989	5557	4641
70°	5531	4959	4056
75°	4957	4201	3361
80°	4158	3206	2555
85°	3094	1996	1547



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	197.4	4.0	2.3	0°	2098	2098	2098	2098	2098	
10°-20°	551.2	11.2	6.6	5°	2080	2080	2082	2088	2083	197
20°-30°	792.3	16.1	9.4	15°	1957	1958	1960	1963	1958	551
30°-40°	899.2	18.3	10.7	25°	1729	1729	1725	1715	1703	796
40°-50°	877.6	17.9	10.4	35°	1454	1460	1450	1418	1392	910
50°-60°	742.8	15.1	8.8	45°	1168	1178	1161	1098	1062	901
60°-70°	524.0	10.7	6.2	55°	878	881	852	778	744	785
70°-80°	265.9	5.4	3.2	65°	582	579	540	480	451	576
80°-90°	56.0	1.1	0.7	75°	295	283	250	216	200	313
90°-100°	0.0	0.0	0.0	85°	62	53	40	33	31	73
100°-110°	0.0	0.0	0.0	90°	0	0	0	0	0	3
110°-120°	0.0	0.0	0.0	95°	0	0	0	0	0	0
120°-130°	0.0	0.0	0.0	105°	0	0	0	0	0	0
130°-140°	0.0	0.0	0.0	115°	0	0	0	0	0	0
140°-150°	0.0	0.0	0.0	125°	0	0	0	0	0	0
150°-160°	0.0	0.0	0.0	135°	0	0	0	0	0	0
160°-170°	0.0	0.0	0.0	145°	0	0	0	0	0	0
170°-180°	0.0	0.0	0.0	155°	0	0	0	0	0	0
0°-30°	1540.9	31.4	18.3	165°	0	0	0	0	0	0
0°-40°	2440.0	49.7	29.0	175°	0	0	0	0	0	0
0°-60°	4060.4	82.8	48.3	180°	0	0	0	0	0	0
0°-90°	4906.3	100.0	58.4							
90°-120°	0.0	0.0	0.0							
90°-150°	0.0	0.0	0.0							
90°-180°	0.0	0.0	0.0							
0°-180°	4906.3	100.0	58.4							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2098	2098	2098	2098	2098
2.5°	2091	2092	2094	2098	2092
5°	2080	2080	2082	2088	2083
7.5°	2061	2061	2063	2069	2066
10°	2034	2034	2036	2043	2039
12.5°	1999	2000	2002	2007	2003
15°	1957	1958	1960	1963	1958
17.5°	1909	1909	1910	1911	1905
20°	1854	1853	1852	1850	1844
22.5°	1794	1793	1790	1785	1776
25°	1729	1729	1725	1715	1703
27.5°	1663	1664	1658	1643	1628
30°	1594	1597	1590	1569	1551
32.5°	1524	1529	1521	1495	1473
35°	1454	1460	1450	1418	1392
37.5°	1384	1390	1379	1340	1310
40°	1312	1320	1307	1260	1227
42.5°	1240	1249	1234	1179	1145
45°	1168	1178	1161	1098	1062
47.5°	1096	1105	1085	1016	981
50°	1023	1031	1008	936	901
52.5°	951	956	930	856	822
55°	878	881	852	778	744
57.5°	804	807	772	701	669
60°	731	731	695	626	595
62.5°	657	655	617	552	522
65°	582	579	540	480	451
67.5°	508	503	464	409	384
70°	435	427	390	342	319
72.5°	364	354	318	277	257
75°	295	283	250	216	200
77.5°	228	215	186	161	148
80°	166	153	128	110	102
82.5°	110	99	79	67	62
85°	62	53	40	33	31
87.5°	24	19	12	10	10
90°	0	0	0	0	0
92.5°	0	0	0	0	0
95°	0	0	0	0	0
97.5°	0	0	0	0	0
100°	0	0	0	0	0
102.5°	0	0	0	0	0
105°	0	0	0	0	0
107.5°	0	0	0	0	0
110°	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0	0	0	0	0
115°	0	0	0	0	0
117.5°	0	0	0	0	0
120°	0	0	0	0	0
122.5°	0	0	0	0	0
125°	0	0	0	0	0
127.5°	0	0	0	0	0
130°	0	0	0	0	0
132.5°	0	0	0	0	0
135°	0	0	0	0	0
137.5°	0	0	0	0	0
140°	0	0	0	0	0
142.5°	0	0	0	0	0
145°	0	0	0	0	0
147.5°	0	0	0	0	0
150°	0	0	0	0	0
152.5°	0	0	0	0	0
155°	0	0	0	0	0
157.5°	0	0	0	0	0
160°	0	0	0	0	0
162.5°	0	0	0	0	0
165°	0	0	0	0	0
167.5°	0	0	0	0	0
170°	0	0	0	0	0
172.5°	0	0	0	0	0
175°	0	0	0	0	0
177.5°	0	0	0	0	0
180°	0	0	0	0	0

(END OF REPORT)