

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: 168P137

Luminaire Tested: **CFE-3-432-93**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 168P137
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: CFE-3-432-93
Description: FAIL-SAFE 2 X 4 Fail-Safe CFE Series Luminaire with a
prismatic tempered glass lens.
Light Source: Four - FO32/35K - 2800 Lumens ea. - 32 Watts ea.
Ballast/Driver: Magnetek B432I120RH Electronic - L.O.B.F. = 89.7%

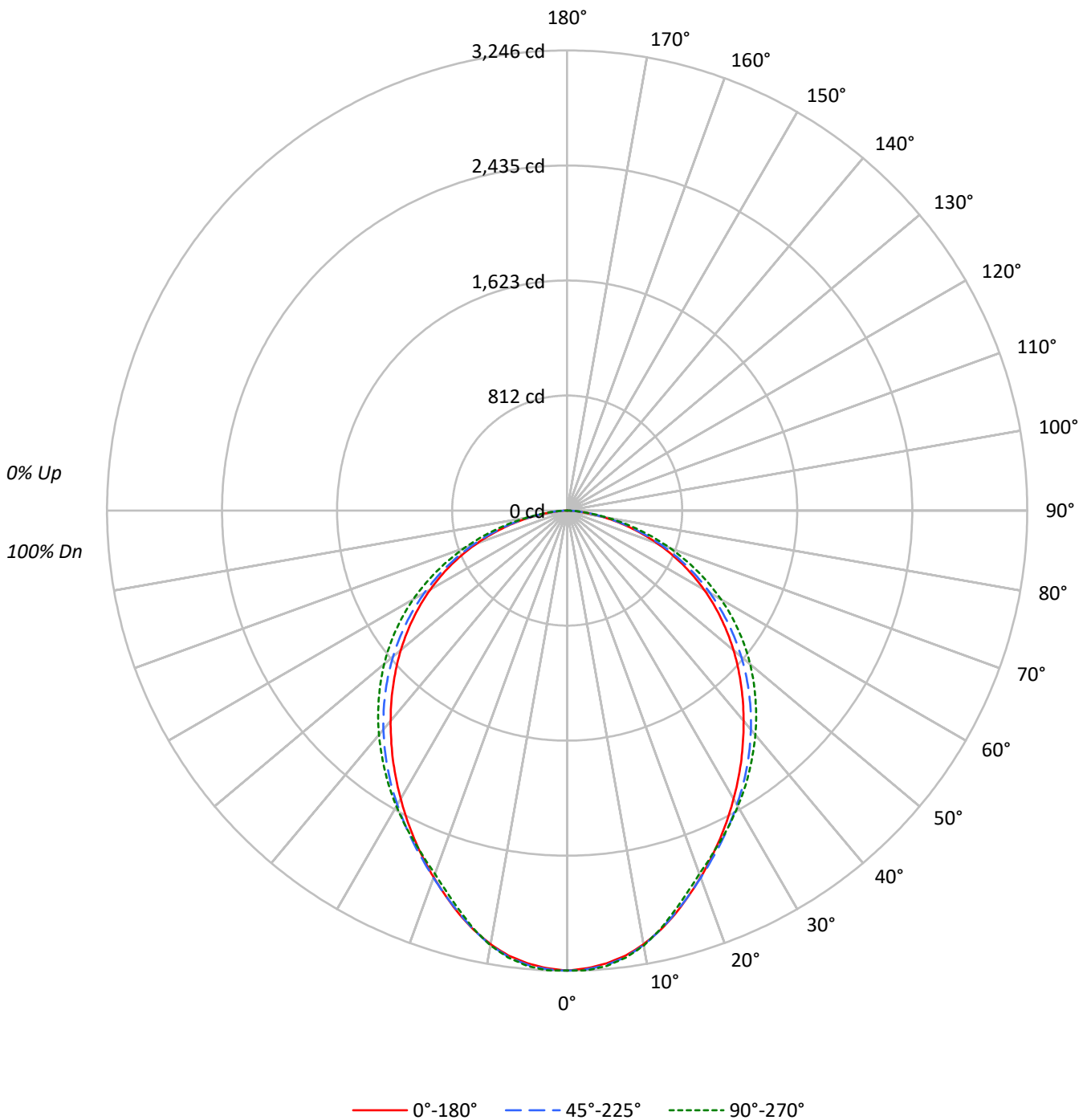
Summary

Lumens per Lamp: 2800 (4 lamps)
Luminaire Lumens: 7889.2 lumens
Efficiency: 70.4%
Efficacy: 71.7 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.12 / 1.26
Luminous Opening: Rectangular (W 1.71' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 110
Input Voltage (V): NR
Input Current (Ain): 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

TEST NUMBER: 168P137
CATALOG NUMBER: CFE-3-432-93

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	84	84	84	84	82	82	82	82	78	78	78	75	75	75	72	72	72	70
1	77	74	71	68	75	72	69	67	69	67	65	66	64	63	64	62	61	59
2	70	64	60	56	68	63	59	55	60	57	54	58	55	52	56	54	51	50
3	64	57	51	46	62	55	50	46	53	49	45	51	48	44	50	46	44	42
4	59	50	44	39	57	49	44	39	48	43	39	46	42	38	44	41	38	36
5	54	45	39	34	52	44	38	34	43	38	34	41	37	33	40	36	33	31
6	50	41	34	30	49	40	34	30	39	33	30	37	33	29	36	32	29	28
7	46	37	31	27	45	36	31	26	35	30	26	34	30	26	33	29	26	24
8	43	34	28	24	42	33	28	24	32	27	24	31	27	23	31	26	23	22
9	40	31	25	21	39	31	25	21	30	25	21	29	24	21	28	24	21	20
10	38	29	23	19	37	28	23	19	28	23	19	27	22	19	26	22	19	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5462	5462	5462
5°	5417	5433	5447
10°	5310	5319	5324
15°	5133	5125	5095
20°	4931	4936	4886
25°	4741	4786	4763
30°	4563	4656	4682
35°	4403	4543	4604
40°	4256	4432	4539
45°	4130	4318	4472
50°	4011	4197	4412
55°	3888	4067	4334
60°	3753	3918	4221
65°	3576	3728	4046
70°	3327	3479	3794
75°	2972	3108	3408
80°	2433	2559	2830
85°	1641	1777	1950



TEST NUMBER: 168P137
 CATALOG NUMBER: CFE-3-432-93

ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	303.6	3.8	2.7	0°	3245	3245	3245	3245	3245	
10°-20°	826.4	10.5	7.4	5°	3206	3207	3216	3221	3224	303
20°-30°	1183.1	15.0	10.6	15°	2946	2942	2941	2931	2924	828
30°-40°	1376.3	17.4	12.3	25°	2553	2561	2577	2570	2565	1176
40°-50°	1394.0	17.7	12.4	35°	2143	2162	2211	2234	2241	1341
50°-60°	1242.5	15.7	11.1	45°	1735	1747	1814	1859	1879	1339
60°-70°	934.0	11.8	8.3	55°	1325	1328	1386	1446	1477	1185
70°-80°	512.3	6.5	4.6	65°	898	895	936	990	1016	888
80°-90°	117.1	1.5	1.0	75°	457	456	478	508	524	484
90°-100°	0.0	0.0	0.0	85°	85	86	92	98	101	105
100°-110°	0.0	0.0	0.0	90°	0	0	0	0	0	4
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°	2313.1	29.3	20.7	165°	0	0	0	0	0	0
0°-40°	3689.4	46.8	32.9	175°	0	0	0	0	0	0
0°-60°	6325.9	80.2	56.5	180°	0	0	0	0	0	0
0°-90°	7889.2	100.0	70.4							
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°	7889.2	100.0	70.4							



TEST NUMBER: 168P137
 CATALOG NUMBER: CFE-3-432-93

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3245	3245	3245	3245	3245
2.5°	3231	3230	3239	3244	3246
5°	3206	3207	3216	3221	3224
7.5°	3166	3166	3175	3179	3180
10°	3107	3106	3112	3115	3115
12.5°	3032	3030	3031	3029	3026
15°	2946	2942	2941	2931	2924
17.5°	2850	2848	2848	2831	2822
20°	2753	2752	2756	2739	2728
22.5°	2654	2656	2665	2652	2645
25°	2553	2561	2577	2570	2565
27.5°	2451	2464	2486	2489	2489
30°	2348	2364	2396	2408	2409
32.5°	2246	2264	2305	2323	2327
35°	2143	2162	2211	2234	2241
37.5°	2039	2058	2114	2143	2153
40°	1937	1954	2017	2049	2066
42.5°	1836	1850	1916	1956	1974
45°	1735	1747	1814	1859	1879
47.5°	1633	1643	1709	1759	1783
50°	1532	1538	1603	1659	1685
52.5°	1429	1434	1495	1555	1583
55°	1325	1328	1386	1446	1477
57.5°	1221	1220	1275	1337	1368
60°	1115	1112	1164	1224	1254
62.5°	1008	1004	1051	1108	1137
65°	898	895	936	990	1016
67.5°	788	785	822	870	894
70°	676	674	707	750	771
72.5°	566	565	592	629	647
75°	457	456	478	508	524
77.5°	351	351	368	391	405
80°	251	251	264	282	292
82.5°	160	162	171	181	188
85°	85	86	92	98	101
87.5°	29	31	33	35	36
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



TEST NUMBER: 168P137
CATALOG NUMBER: CFE-3-432-93

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)