

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: P26872

Luminaire Tested: **FSR-24-4-LD4-3HI-80/84**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P26872  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-3HI-80/84  
Description: FAILSAFE RECESSED CORRECTIONAL LED 2X4 FIXTURE  
Light Source: (252) NICHIA 4000K LEDS  
2UT217042A8404A  
Ballast/Driver: (3) OSRAM ELECTRONIC DRIVER  
OSRAM OT50W

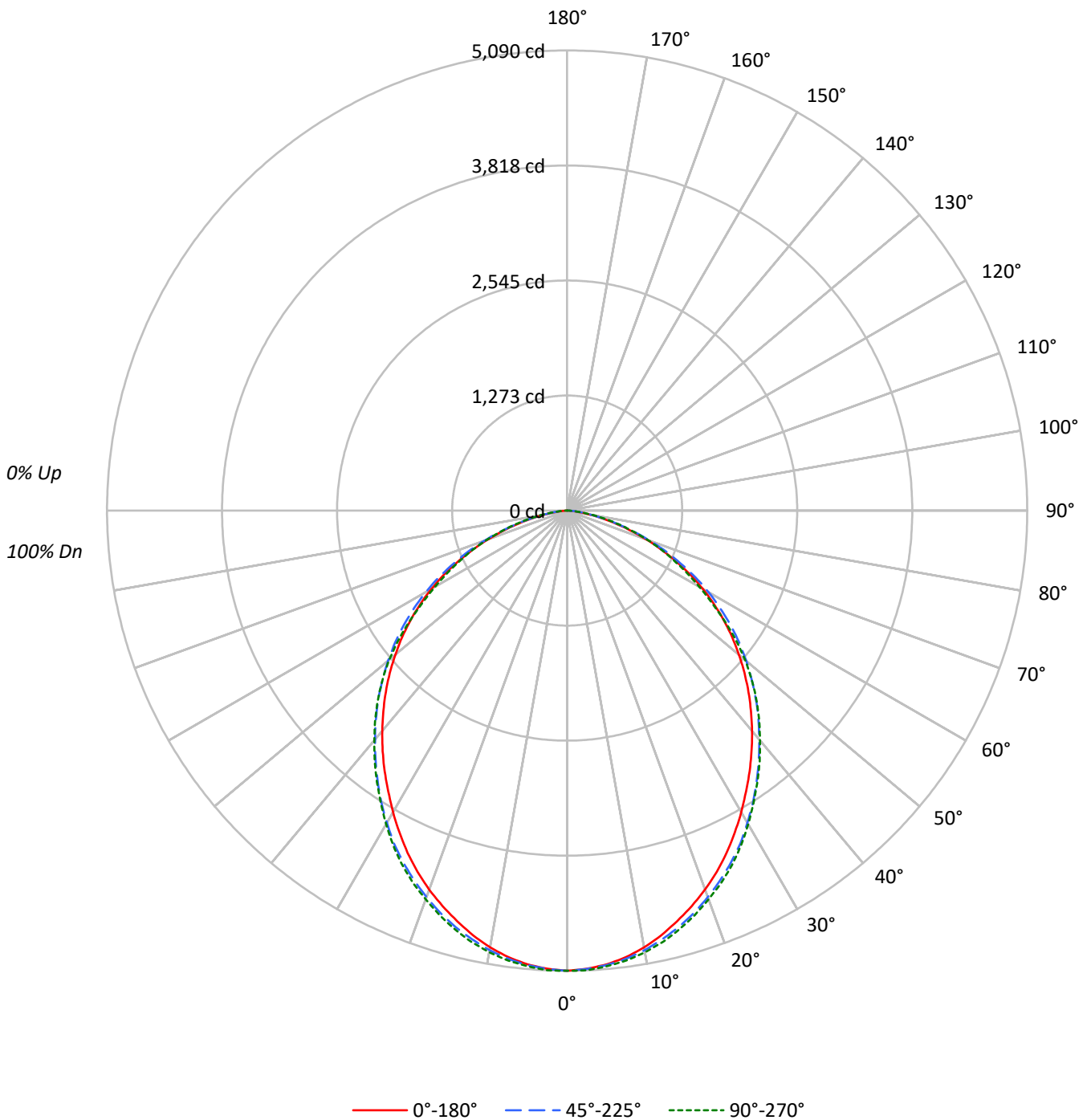
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12301.7 lumens  
Efficiency: N/A  
Efficacy: 89.5 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.18 / 1.29  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 137.4  
Input Voltage (V): 120.04  
Input Current (Ain): 1.1508  
Voltage Rise (V): NR  
Power Factor: 0.9986  
Total Harmonic Distortion (THDi): 8.89%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: 24 HR  
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	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	88	86					86			
2	100	92	86	81	98	91	85	80	87	82	78	84	80	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	51	44	39	50	43	38	48	43	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	45	39	34	32					32			
9	58	45	37	32	57	44	37	32	43	36	31	42	36	31	41	35	31	29					29			
10	55	42	34	29	53	41	34	29	40	33	29	39	33	28	38	33	28	27					27			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6849	6849	6849
5°	6804	6817	6833
10°	6703	6747	6778
15°	6550	6643	6681
20°	6389	6513	6552
25°	6200	6370	6415
30°	5985	6196	6224
35°	5780	6002	6023
40°	5591	5807	5830
45°	5398	5619	5634
50°	5193	5413	5377
55°	4964	5168	4982
60°	4666	4855	4545
65°	4238	4409	4139
70°	3655	3828	3702
75°	2896	3052	3093
80°	1999	2162	2317
85°	1065	1266	1451



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	478.4	3.9
10°-20°	1341.5	10.9
20°-30°	1966.1	16.0
30°-40°	2266.1	18.4
40°-50°	2253.3	18.3
50°-60°	1928.8	15.7
60°-70°	1330.2	10.8
70°-80°	624.2	5.1
80°-90°	113.1	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3786.0	30.8
0°-40°	6052.1	49.2
0°-60°	10234.2	83.2
0°-90°	12301.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12301.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5090	5090	5090	5090	5090	
5°	5038	5042	5047	5059	5059	477
15°	4702	4729	4769	4800	4796	1325
25°	4176	4218	4291	4335	4321	1921
35°	3519	3554	3654	3685	3667	2202
45°	2837	2862	2953	2974	2961	2188
55°	2116	2133	2203	2187	2124	1889
65°	1331	1341	1385	1323	1300	1317
75°	557	569	587	587	595	601
85°	69	77	82	91	94	100
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5090	5090	5090	5090	5090
2.5°	5073	5075	5075	5087	5090
5°	5038	5042	5047	5059	5059
7.5°	4982	4989	5000	5018	5019
10°	4906	4918	4938	4960	4961
12.5°	4812	4830	4857	4889	4888
15°	4702	4729	4769	4800	4796
17.5°	4585	4618	4667	4699	4692
20°	4462	4495	4549	4589	4576
22.5°	4324	4363	4426	4467	4456
25°	4176	4218	4291	4335	4321
27.5°	4016	4063	4149	4190	4170
30°	3852	3899	3988	4030	4006
32.5°	3682	3726	3826	3859	3836
35°	3519	3554	3654	3685	3667
37.5°	3352	3383	3481	3511	3497
40°	3183	3211	3306	3335	3319
42.5°	3009	3037	3131	3155	3143
45°	2837	2862	2953	2974	2961
47.5°	2660	2689	2771	2788	2771
50°	2481	2507	2586	2598	2569
52.5°	2301	2328	2397	2397	2353
55°	2116	2133	2203	2187	2124
57.5°	1927	1944	2005	1964	1895
60°	1734	1747	1804	1734	1689
62.5°	1535	1544	1601	1530	1491
65°	1331	1341	1385	1323	1300
67.5°	1129	1138	1183	1131	1123
70°	929	939	973	942	941
72.5°	736	748	772	760	764
75°	557	569	587	587	595
77.5°	395	408	421	432	438
80°	258	267	279	292	299
82.5°	148	156	162	177	177
85°	69	77	82	91	94
87.5°	22	27	29	33	34
90°	0	0	0	0	0

(END OF REPORT)