

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: P26851

Luminaire Tested: **FSR-12-4-LD4-2STD-80/84**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P26851  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FSR-12-4-LD4-2STD-80/84  
Description: FAILSAFE RECESSED CORRECTIONAL LED 1X4 FIXTURE  
Light Source: (168) NICHIA 4000K LEDS  
2UT217042A8404A  
Ballast/Driver: (2) OSRAM ELECTRONIC DRIVER  
OSRAM OT50W

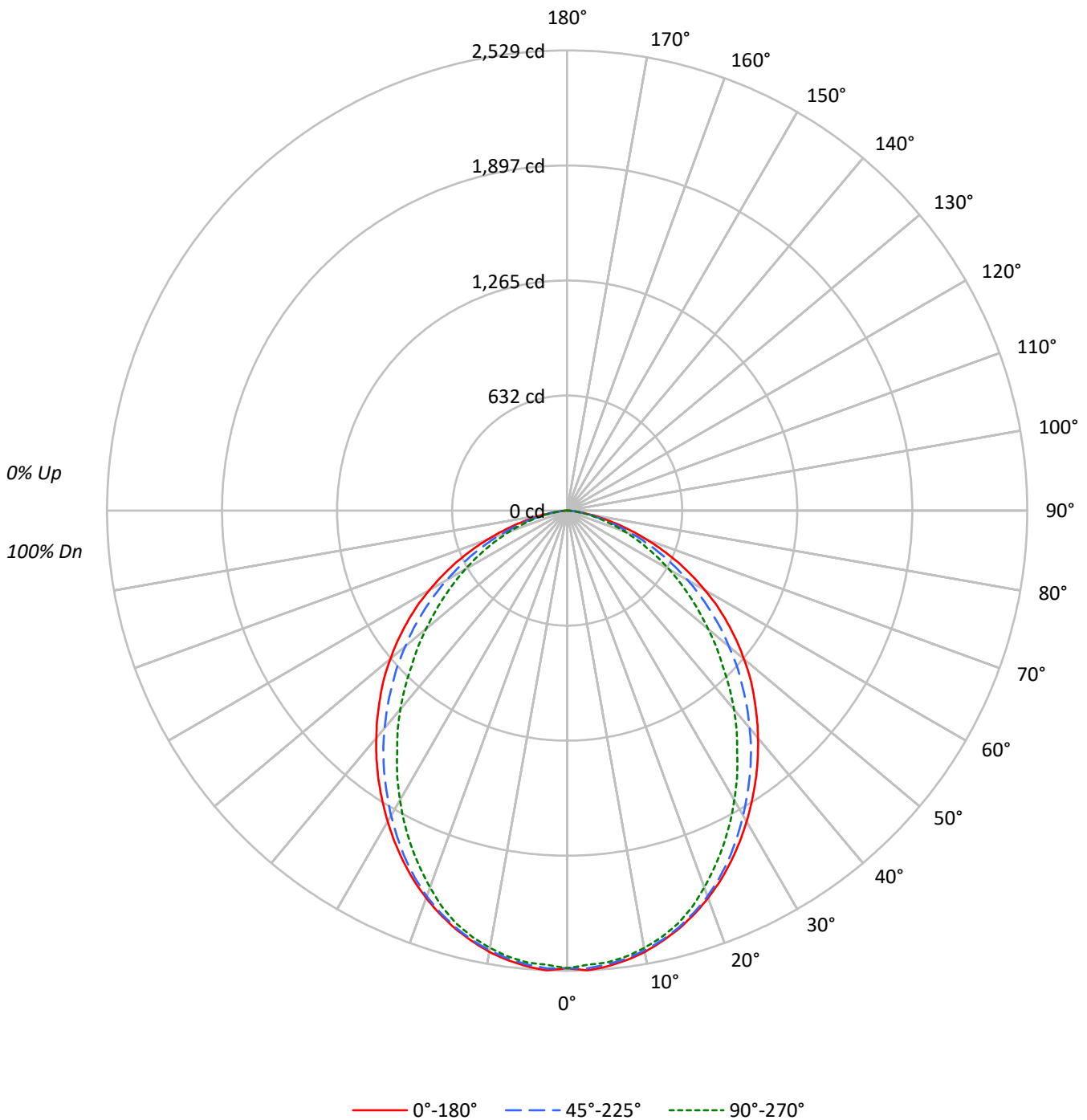
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5702.6 lumens  
Efficiency: N/A  
Efficacy: 83.2 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 1.11 / 1.25  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 68.5  
Input Voltage (V): 120.07  
Input Current (Ain): 0.57321  
Voltage Rise (V): NR  
Power Factor: 0.9985  
Total Harmonic Distortion (THDi): 7.39%  
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	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86					86			
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73					73			
3	92	83	75	69	90	81	74	68	78	72	67	76	70	66	73	69	65	63					63			
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55					55			
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50	48					48			
6	73	60	52	46	71	59	51	45	57	50	45	56	49	45	54	49	44	42					42			
7	68	55	46	41	66	54	46	40	52	45	40	51	45	40	50	44	40	38					38			
8	63	50	42	36	62	49	42	36	48	41	36	47	41	36	46	40	36	34					34			
9	59	46	38	33	58	46	38	33	44	38	33	43	37	33	42	37	32	31					31			
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	39	34	30	28					28			

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

	0°	45°	90°
0°	6768	6768	6768
5°	6794	6767	6734
10°	6730	6706	6670
15°	6625	6605	6547
20°	6489	6460	6312
25°	6321	6259	6030
30°	6131	6013	5711
35°	5936	5759	5351
40°	5733	5480	5009
45°	5530	5179	4605
50°	5308	4856	4237
55°	5043	4513	3861
60°	4698	4112	3488
65°	4266	3649	3075
70°	3666	3076	2628
75°	2911	2412	2131
80°	1999	1705	1565
85°	1050	1112	1142



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	236.9	4.2
10°-20°	664.8	11.7
20°-30°	960.7	16.8
30°-40°	1083.7	19.0
40°-50°	1038.4	18.2
50°-60°	851.5	14.9
60°-70°	565.7	9.9
70°-80°	253.3	4.4
80°-90°	47.7	0.8
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°	1862.4	32.7
0°-40°	2946.1	51.7
0°-60°	4836.0	84.8
0°-90°	5702.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5702.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2515	2515	2515	2515	2515	
5°	2515	2490	2505	2498	2493	238
15°	2378	2357	2371	2359	2350	670
25°	2129	2115	2108	2052	2031	980
35°	1807	1792	1753	1669	1629	1130
45°	1453	1429	1361	1261	1210	1121
55°	1075	1034	962	862	823	961
65°	670	625	573	507	483	662
75°	280	252	232	209	205	302
85°	34	34	36	37	37	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2515	2515	2515	2515	2515
2.5°	2529	2503	2518	2511	2499
5°	2515	2490	2505	2498	2493
7.5°	2493	2469	2484	2477	2473
10°	2463	2439	2454	2445	2441
12.5°	2423	2401	2417	2406	2401
15°	2378	2357	2371	2359	2350
17.5°	2325	2307	2317	2298	2284
20°	2266	2250	2256	2221	2204
22.5°	2201	2185	2185	2137	2119
25°	2129	2115	2108	2052	2031
27.5°	2053	2040	2023	1964	1937
30°	1973	1960	1935	1869	1838
32.5°	1891	1878	1844	1771	1738
35°	1807	1792	1753	1669	1629
37.5°	1721	1705	1660	1569	1531
40°	1632	1615	1560	1466	1426
42.5°	1544	1523	1462	1364	1320
45°	1453	1429	1361	1261	1210
47.5°	1365	1333	1265	1158	1113
50°	1268	1234	1160	1056	1012
52.5°	1174	1135	1065	958	916
55°	1075	1034	962	862	823
57.5°	979	932	864	770	734
60°	873	830	764	680	648
62.5°	772	728	668	591	564
65°	670	625	573	507	483
67.5°	567	525	481	425	407
70°	466	428	391	348	334
72.5°	370	336	308	276	267
75°	280	252	232	209	205
77.5°	198	177	167	152	148
80°	129	116	110	102	101
82.5°	74	68	66	63	63
85°	34	34	36	37	37
87.5°	11	15	19	21	22
90°	0	0	0	0	0

(END OF REPORT)