

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: P26873

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P26873  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMS-24-4-LD4-4HI-80/84  
Description: FAILSAFE SURFACE MOUNT CORRECTIONAL LED 2X4 FIXTURE  
Light Source: (336) NICHIA 4000K LEDS  
2UT217042A8404A  
Ballast/Driver: (4) OSRAM ELECTRONIC DRIVER  
OT50W

**Summary**

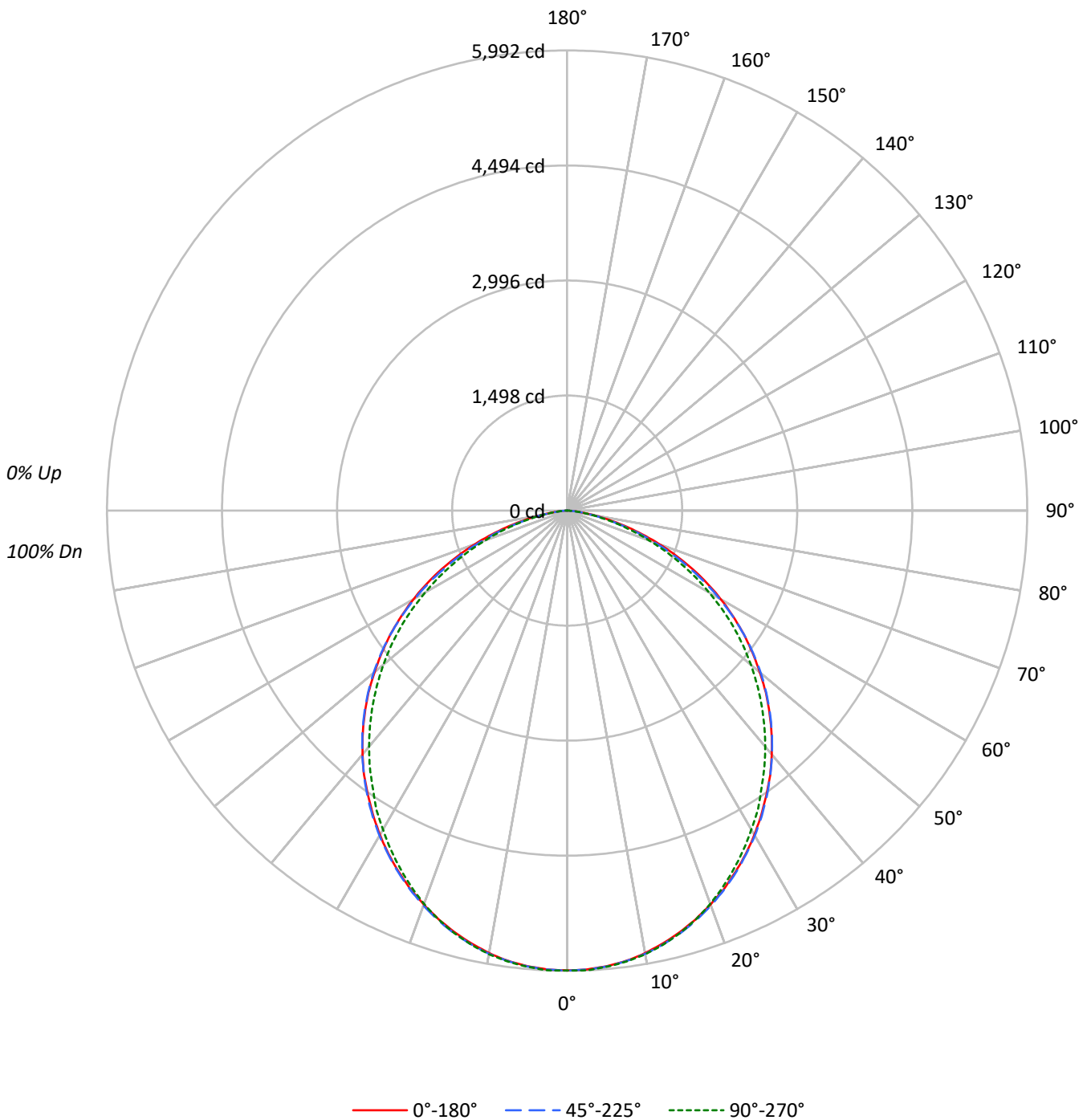
Lumens per Lamp: N/A  
Luminaire Lumens: 15308.4 lumens  
Efficiency: N/A  
Efficacy: 90.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 169.9  
Input Voltage (V): 120.09  
Input Current (Ain): 1.4207  
Voltage Rise (V): NR  
Power Factor: 0.9991  
Total Harmonic Distortion (THDi): 8.03%  
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	87					85				
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74					72				
3	92	81	74	67	89	80	73	67	77	71	66	74	69	64	72	67	63					61				
4	84	72	64	57	82	71	63	57	69	62	56	66	60	55	64	59	55					53				
5	77	65	56	50	75	64	55	49	62	54	49	60	53	48	58	52	48					46				
6	71	58	50	43	70	58	49	43	56	48	43	54	48	43	52	47	42					40				
7	66	53	44	38	65	52	44	38	51	43	38	49	43	38	48	42	38					36				
8	62	48	40	34	60	48	40	34	46	39	34	45	39	34	44	38	34					32				
9	58	45	36	31	56	44	36	31	43	36	31	42	35	31	41	35	30					29				
10	54	41	33	28	53	41	33	28	40	33	28	39	32	28	38	32	28					26				

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

	0°	45°	90°
0°	8058	8058	8058
5°	8042	8047	8052
10°	7994	8006	8014
15°	7913	7934	7930
20°	7816	7836	7802
25°	7705	7720	7635
30°	7576	7594	7453
35°	7428	7447	7245
40°	7282	7287	7048
45°	7092	7107	6810
50°	6849	6889	6541
55°	6582	6585	6205
60°	6224	6160	5748
65°	5731	5562	5193
70°	5024	4776	4457
75°	4055	3753	3592
80°	2820	2588	2495
85°	1436	1328	1343



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	565.7	3.7
10°-20°	1604.8	10.5
20°-30°	2388.9	15.6
30°-40°	2816.5	18.4
40°-50°	2842.7	18.6
50°-60°	2458.8	16.1
60°-70°	1710.0	11.2
70°-80°	789.6	5.2
80°-90°	131.4	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°	4559.4	29.8
0°-40°	7375.9	48.2
0°-60°	12677.4	82.8
0°-90°	15308.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15308.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5989	5989	5989	5989	5989	
5°	5954	5953	5958	5965	5962	565
15°	5681	5688	5696	5697	5693	1602
25°	5190	5206	5200	5172	5143	2391
35°	4522	4544	4534	4467	4411	2830
45°	3727	3724	3735	3638	3579	2873
55°	2806	2779	2807	2709	2645	2504
65°	1800	1770	1747	1682	1631	1778
75°	780	766	722	710	691	838
85°	93	94	86	88	87	138
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5989	5989	5989	5989	5989
2.5°	5980	5977	5982	5990	5992
5°	5954	5953	5958	5965	5962
7.5°	5913	5912	5916	5925	5923
10°	5851	5853	5860	5868	5866
12.5°	5772	5777	5786	5792	5789
15°	5681	5688	5696	5697	5693
17.5°	5576	5589	5592	5587	5580
20°	5459	5474	5473	5466	5449
22.5°	5334	5346	5342	5329	5303
25°	5190	5206	5200	5172	5143
27.5°	5039	5055	5047	5011	4975
30°	4876	4895	4888	4838	4797
32.5°	4702	4724	4716	4656	4622
35°	4522	4544	4534	4467	4411
37.5°	4343	4351	4345	4270	4220
40°	4146	4152	4149	4067	4013
42.5°	3940	3942	3947	3857	3799
45°	3727	3724	3735	3638	3579
47.5°	3508	3498	3520	3414	3354
50°	3272	3264	3291	3184	3125
52.5°	3042	3024	3055	2950	2889
55°	2806	2779	2807	2709	2645
57.5°	2562	2530	2552	2460	2394
60°	2313	2277	2289	2204	2136
62.5°	2059	2021	2018	1944	1887
65°	1800	1770	1747	1682	1631
67.5°	1538	1513	1478	1424	1384
70°	1277	1257	1214	1174	1133
72.5°	1023	1002	962	935	905
75°	780	766	722	710	691
77.5°	559	547	511	506	494
80°	364	356	334	330	322
82.5°	207	202	189	188	186
85°	93	94	86	88	87
87.5°	27	31	29	31	29
90°	0	0	0	0	0

(END OF REPORT)