

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: P26852

Luminaire Tested: **FSR-12-4-LD4-1-HI-80/84**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P26852  
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-LD4-1-HI-80/84  
Description: FAILSAFE RECESSED CORRECTIONAL LED 1X4 FIXTURE  
Light Source: (84) NICHIA 4000K LEDS  
2UT217042A8404A  
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER  
OSRAM OT50W

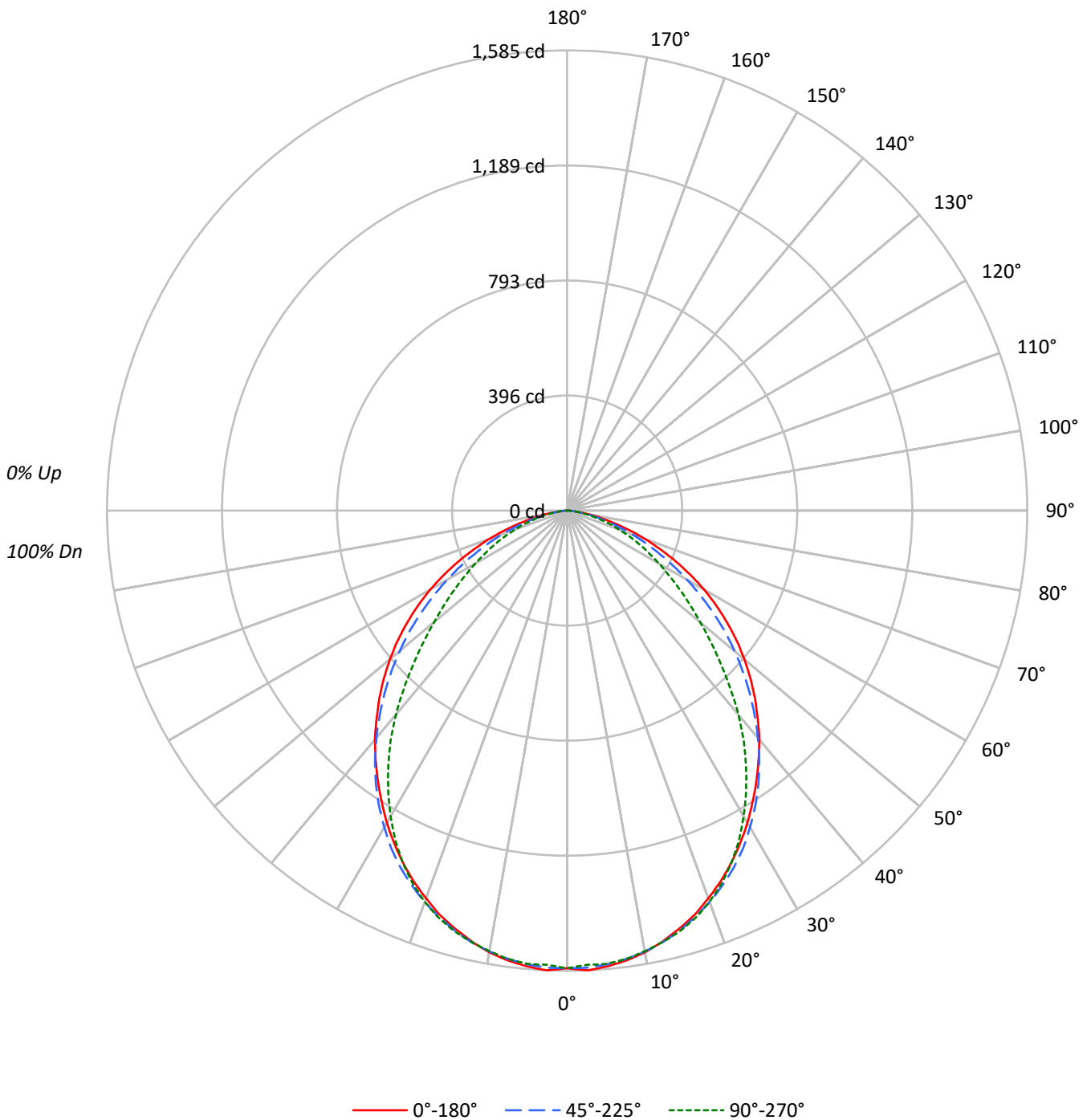
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3600.9 lumens  
Efficiency: N/A  
Efficacy: 79.5 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 1.16 / 1.27  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 45.3  
Input Voltage (V): 120.03  
Input Current (Ain): 0.37833  
Voltage Rise (V): NR  
Power Factor: 0.9993  
Total Harmonic Distortion (THDi): 7.72%  
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	99	107	104	100	97	99	97	94	95	93	91	92	90	88					86				
2	101	94	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76					74				
3	93	83	75	70	90	81	75	69	79	73	68	76	71	67	73	69	65					63				
4	85	74	66	60	83	73	65	59	70	64	59	68	62	58	66	61	57					55				
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	54	50					48				
6	73	60	52	46	71	60	52	46	58	51	45	56	50	45	55	49	45					43				
7	68	55	47	41	66	54	46	41	53	46	40	51	45	40	50	44	40					38				
8	63	50	42	37	62	50	42	37	48	41	36	47	41	36	46	40	36					34				
9	59	46	39	33	58	46	38	33	45	38	33	44	37	33	43	37	33					31				
10	56	43	35	30	54	42	35	30	42	35	30	41	34	30	40	34	30					28				

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

	0°	45°	90°
0°	4241	4241	4241
5°	4257	4238	4233
10°	4222	4214	4211
15°	4154	4171	4179
20°	4069	4109	4107
25°	3973	4029	3976
30°	3859	3915	3778
35°	3735	3771	3528
40°	3618	3590	3225
45°	3482	3383	2850
50°	3332	3152	2503
55°	3157	2885	2219
60°	2928	2567	1964
65°	2617	2222	1745
70°	2242	1865	1495
75°	1747	1435	1216
80°	1224	992	914
85°	648	648	679



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.7	4.1
10°-20°	420.6	11.7
20°-30°	617.8	17.2
30°-40°	701.1	19.5
40°-50°	662.1	18.4
50°-60°	527.8	14.7
60°-70°	342.2	9.5
70°-80°	152.2	4.2
80°-90°	28.5	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°	1187.1	33.0
0°-40°	1888.1	52.4
0°-60°	3078.0	85.5
0°-90°	3600.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3600.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1576	1576	1576	1576	1576	
5°	1576	1560	1569	1565	1567	149
15°	1491	1481	1497	1497	1500	420
25°	1338	1336	1357	1344	1339	616
35°	1137	1139	1148	1098	1074	711
45°	915	915	889	799	749	705
55°	673	664	615	509	473	601
65°	411	396	349	289	274	407
75°	168	160	138	121	117	183
85°	21	21	21	22	22	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1576	1576	1576	1576	1576
2.5°	1585	1569	1576	1573	1566
5°	1576	1560	1569	1565	1567
7.5°	1563	1548	1558	1556	1558
10°	1545	1530	1542	1541	1541
12.5°	1520	1508	1523	1520	1522
15°	1491	1481	1497	1497	1500
17.5°	1460	1451	1467	1469	1471
20°	1421	1416	1435	1432	1434
22.5°	1382	1379	1398	1389	1390
25°	1338	1336	1357	1344	1339
27.5°	1291	1291	1312	1293	1281
30°	1242	1240	1260	1230	1216
32.5°	1189	1191	1206	1166	1147
35°	1137	1139	1148	1098	1074
37.5°	1083	1086	1087	1027	999
40°	1030	1031	1022	954	918
42.5°	971	975	956	878	833
45°	915	915	889	799	749
47.5°	856	855	821	719	672
50°	796	792	753	643	598
52.5°	736	728	685	573	534
55°	673	664	615	509	473
57.5°	609	596	545	448	416
60°	544	529	477	392	365
62.5°	477	462	412	338	318
65°	411	396	349	289	274
67.5°	345	332	292	243	231
70°	285	270	237	200	190
72.5°	224	212	185	159	154
75°	168	160	138	121	117
77.5°	121	112	98	88	85
80°	79	72	64	60	59
82.5°	46	42	38	38	37
85°	21	21	21	22	22
87.5°	6	8	11	13	13
90°	0	0	0	0	0

(END OF REPORT)