

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P563926

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-82-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563926  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-4LO-40-UNV-82-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

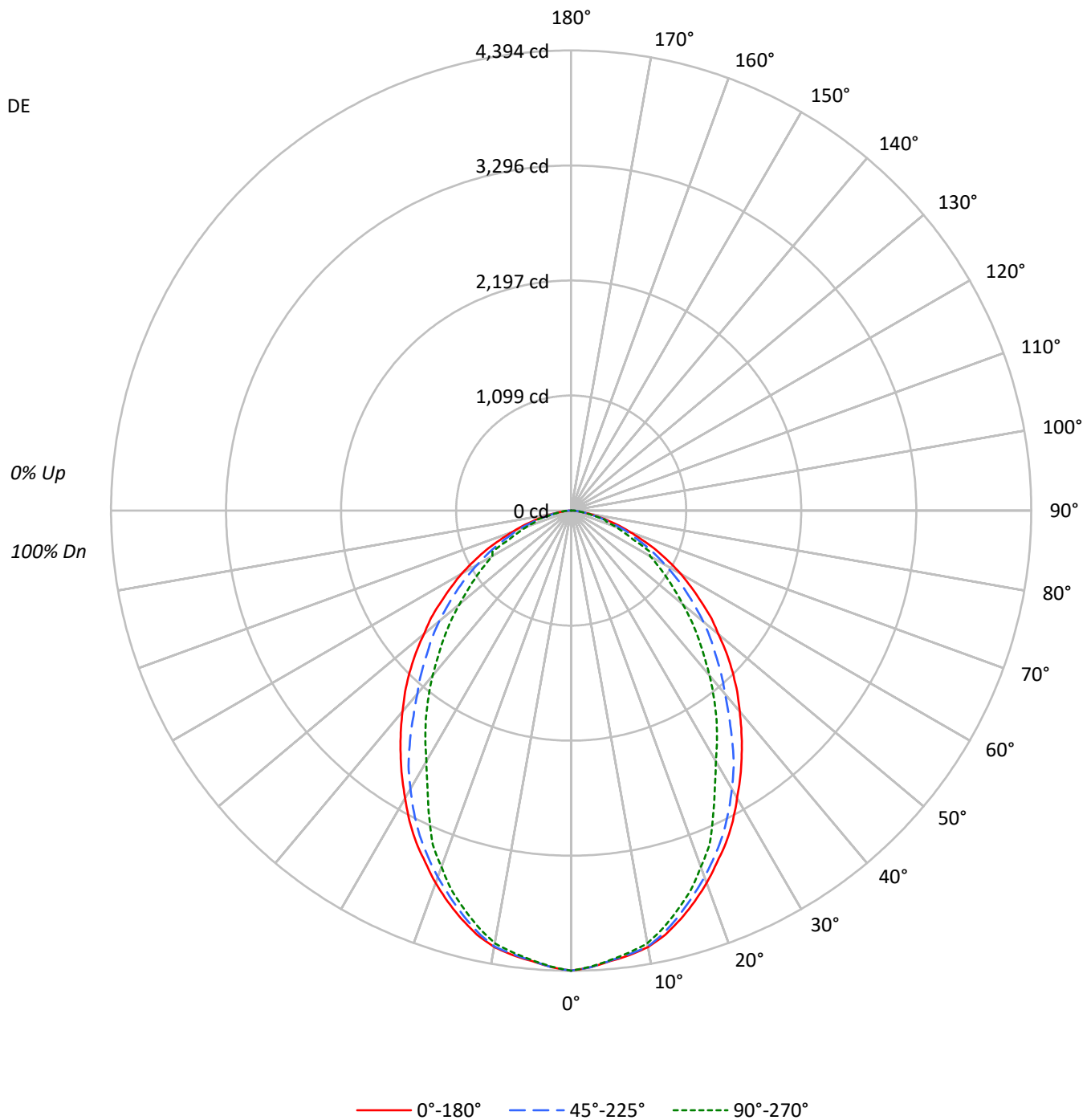
Lumens per Lamp: N/A  
Luminaire Lumens: 8626.0 lumens  
Efficiency: N/A  
Efficacy: 92.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: 24 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	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

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

	0°	45°	90°
0°	5912	5912	5912
5°	5832	5825	5818
10°	5781	5774	5733
15°	5625	5569	5491
20°	5419	5331	5186
25°	5196	5083	4766
30°	4925	4767	4293
35°	4664	4405	3972
40°	4399	4015	3613
45°	4147	3712	3267
50°	3839	3445	2913
55°	3551	3122	2610
60°	3253	2789	2337
65°	2862	2442	2070
70°	2358	2138	1758
75°	1875	1637	1717
80°	1260	1181	1102
85°	784	942	1098

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4147 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	409.0	4.7
10°-20°	1122.5	13.0
20°-30°	1554.0	18.0
30°-40°	1657.1	19.2
40°-50°	1511.7	17.5
50°-60°	1184.3	13.7
60°-70°	771.9	8.9
70°-80°	342.0	4.0
80°-90°	73.4	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°	3085.6	35.8
0°-40°	4742.7	55.0
0°-60°	7438.7	86.2
0°-90°	8626.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8626.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4394	4394	4394	4394	4394	
5°	4318	4313	4313	4308	4308	410
15°	4038	4038	3998	3957	3942	1135
25°	3500	3480	3424	3302	3210	1607
35°	2840	2819	2682	2479	2418	1775
45°	2179	2134	1951	1788	1717	1679
55°	1514	1468	1331	1173	1112	1358
65°	899	848	767	782	650	886
75°	361	335	315	300	330	387
85°	51	56	61	66	71	70
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4394.0	4394.0	4394.0	4394.0	4394.0
2.5°	4363.5	4363.5	4363.5	4358.4	4358.4
5°	4317.8	4312.7	4312.7	4307.6	4307.6
7.5°	4282.2	4277.1	4272.1	4267.0	4256.8
10°	4231.4	4231.4	4226.3	4200.9	4195.9
12.5°	4150.1	4145.1	4124.7	4089.2	4079.0
15°	4038.4	4038.4	3997.7	3957.1	3941.9
17.5°	3916.5	3911.4	3860.6	3820.0	3799.6
20°	3784.4	3774.2	3723.4	3657.4	3621.8
22.5°	3637.1	3637.1	3576.1	3489.8	3454.2
25°	3499.9	3479.6	3423.7	3301.8	3210.4
27.5°	3342.5	3312.0	3251.0	3078.3	2971.6
30°	3169.8	3154.5	3068.2	2844.7	2763.4
32.5°	3007.2	2981.8	2890.4	2656.7	2590.7
35°	2839.6	2819.3	2682.1	2478.9	2418.0
37.5°	2671.9	2646.5	2473.8	2311.3	2235.1
40°	2504.3	2473.8	2285.9	2138.6	2057.3
42.5°	2346.8	2306.2	2123.3	1965.9	1874.4
45°	2179.2	2133.5	1950.6	1788.1	1716.9
47.5°	2011.6	1970.9	1803.3	1635.7	1554.4
50°	1833.8	1798.2	1645.8	1478.2	1391.8
52.5°	1686.5	1630.6	1483.3	1315.7	1244.5
55°	1513.8	1468.0	1330.9	1173.4	1112.5
57.5°	1356.3	1310.6	1183.6	1036.3	985.5
60°	1209.0	1142.9	1036.3	909.3	868.6
62.5°	1046.4	995.6	904.2	797.5	848.3
65°	899.1	848.3	767.0	782.3	650.2
67.5°	736.6	711.2	640.0	568.9	548.6
70°	599.4	568.9	543.5	467.3	447.0
72.5°	477.5	447.0	411.5	370.8	355.6
75°	360.7	335.3	314.9	299.7	330.2
77.5°	248.9	238.7	223.5	208.3	203.2
80°	162.6	157.5	152.4	147.3	142.2
82.5°	96.5	96.5	96.5	96.5	96.5
85°	50.8	55.9	61.0	66.0	71.1
87.5°	30.5	30.5	35.6	40.6	45.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)