

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: P562822

Luminaire Tested: FSR-24-4-LD4-2LO-50-UNV-81-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562822  
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-LD4-2LO-50-UNV-81-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

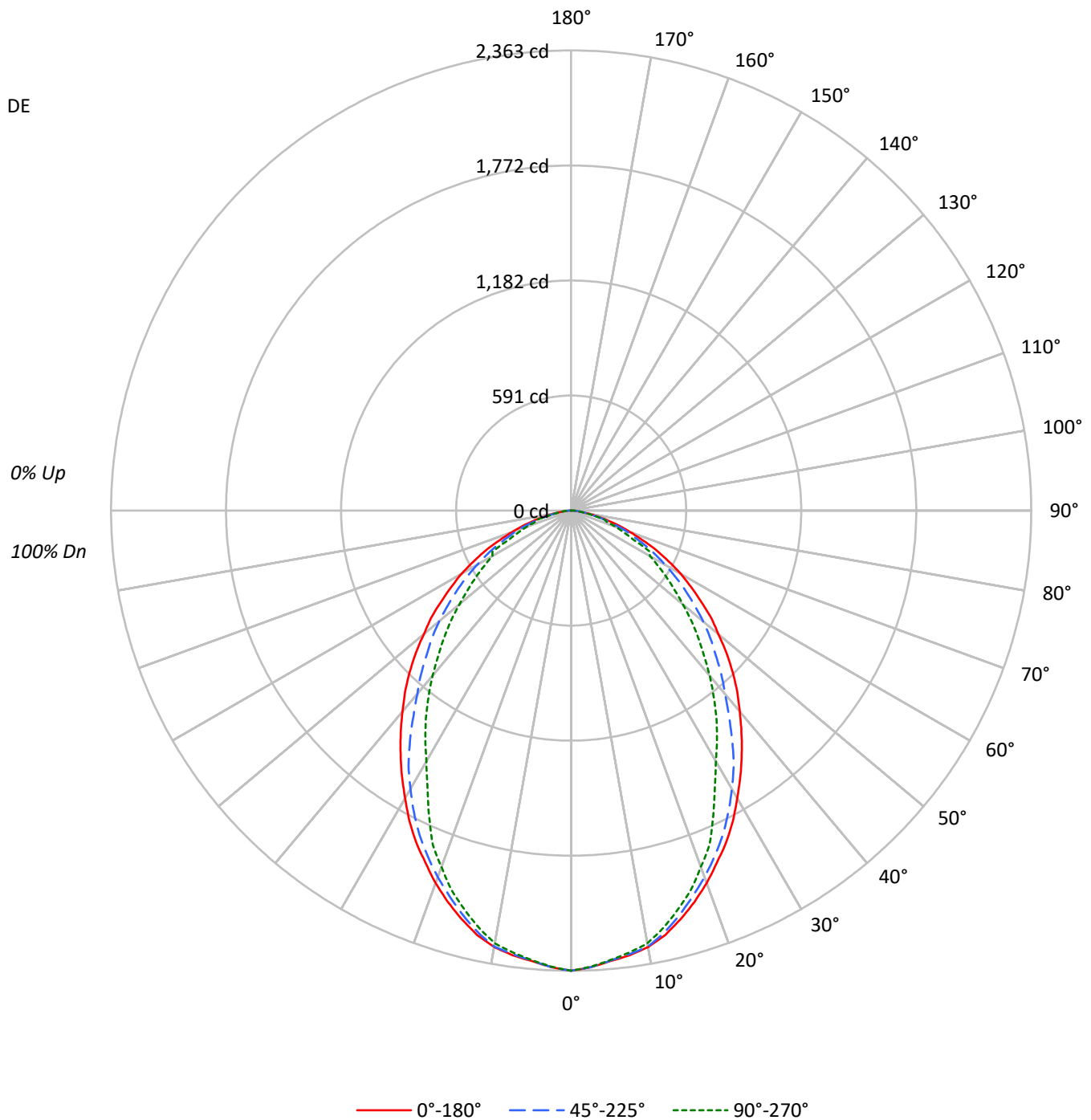
Lumens per Lamp: N/A  
Luminaire Lumens: 4639.0 lumens  
Efficiency: N/A  
Efficacy: 99.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	50	30	10	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

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

	0°	45°	90°
0°	3179	3179	3179
5°	3136	3133	3129
10°	3109	3105	3083
15°	3025	2995	2953
20°	2914	2867	2789
25°	2794	2734	2563
30°	2648	2564	2309
35°	2508	2369	2136
40°	2366	2159	1943
45°	2230	1996	1757
50°	2064	1853	1567
55°	1910	1679	1403
60°	1750	1500	1257
65°	1539	1313	1113
70°	1268	1150	946
75°	1009	881	923
80°	677	635	593
85°	421	506	590

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2230 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	220.0	4.7
10°-20°	603.7	13.0
20°-30°	835.8	18.0
30°-40°	891.2	19.2
40°-50°	813.0	17.5
50°-60°	636.9	13.7
60°-70°	415.1	8.9
70°-80°	183.9	4.0
80°-90°	39.5	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°	1659.4	35.8
0°-40°	2550.6	55.0
0°-60°	4000.5	86.2
0°-90°	4639.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4639.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2363	2363	2363	2363	2363	
5°	2322	2319	2319	2317	2317	220
15°	2172	2172	2150	2128	2120	611
25°	1882	1871	1841	1776	1726	864
35°	1527	1516	1442	1333	1300	955
45°	1172	1147	1049	962	923	903
55°	814	790	716	631	598	730
65°	484	456	412	421	350	477
75°	194	180	169	161	178	208
85°	27	30	33	36	38	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2363.0	2363.0	2363.0	2363.0	2363.0
2.5°	2346.7	2346.7	2346.7	2343.9	2343.9
5°	2322.1	2319.3	2319.3	2316.6	2316.6
7.5°	2302.9	2300.2	2297.5	2294.7	2289.3
10°	2275.6	2275.6	2272.9	2259.2	2256.5
12.5°	2231.9	2229.2	2218.3	2199.1	2193.7
15°	2171.8	2171.8	2150.0	2128.1	2119.9
17.5°	2106.3	2103.5	2076.2	2054.3	2043.4
20°	2035.2	2029.8	2002.4	1966.9	1947.8
22.5°	1956.0	1956.0	1923.2	1876.8	1857.7
25°	1882.2	1871.3	1841.3	1775.7	1726.5
27.5°	1797.6	1781.2	1748.4	1655.5	1598.1
30°	1704.7	1696.5	1650.0	1529.8	1486.1
32.5°	1617.3	1603.6	1554.4	1428.8	1393.2
35°	1527.1	1516.2	1442.4	1333.1	1300.4
37.5°	1436.9	1423.3	1330.4	1243.0	1202.0
40°	1346.8	1330.4	1229.3	1150.1	1106.4
42.5°	1262.1	1240.3	1141.9	1057.2	1008.1
45°	1172.0	1147.4	1049.0	961.6	923.4
47.5°	1081.8	1060.0	969.8	879.7	835.9
50°	986.2	967.1	885.1	795.0	748.5
52.5°	907.0	876.9	797.7	707.5	669.3
55°	814.1	789.5	715.7	631.1	598.3
57.5°	729.4	704.8	636.5	557.3	530.0
60°	650.2	614.7	557.3	489.0	467.1
62.5°	562.8	535.4	486.3	428.9	456.2
65°	483.5	456.2	412.5	420.7	349.7
67.5°	396.1	382.5	344.2	306.0	295.0
70°	322.4	306.0	292.3	251.3	240.4
72.5°	256.8	240.4	221.3	199.4	191.2
75°	194.0	180.3	169.4	161.2	177.6
77.5°	133.9	128.4	120.2	112.0	109.3
80°	87.4	84.7	82.0	79.2	76.5
82.5°	51.9	51.9	51.9	51.9	51.9
85°	27.3	30.1	32.8	35.5	38.2
87.5°	16.4	16.4	19.1	21.9	24.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)