

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: P563959

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563959  
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-50-UNV-80-87-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

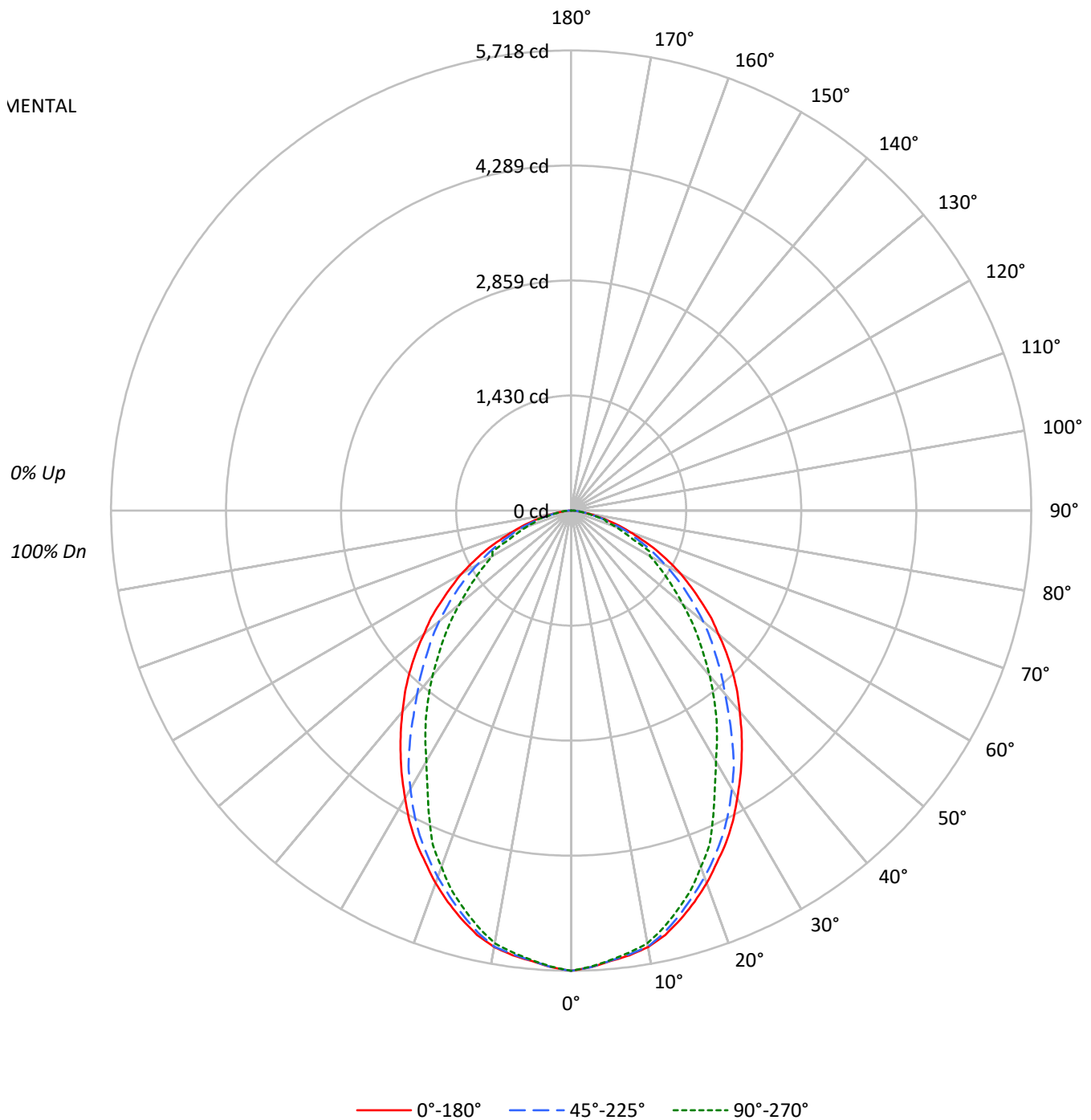
Lumens per Lamp: N/A  
Luminaire Lumens: 11226.0 lumens  
Efficiency: N/A  
Efficacy: 119.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7694	7694	7694
5°	7589	7581	7572
10°	7524	7515	7461
15°	7321	7247	7146
20°	7052	6938	6749
25°	6762	6615	6203
30°	6409	6204	5587
35°	6070	5733	5169
40°	5724	5225	4703
45°	5396	4830	4252
50°	4995	4483	3792
55°	4621	4063	3396
60°	4234	3629	3042
65°	3725	3178	2694
70°	3069	2783	2289
75°	2440	2131	2234
80°	1639	1537	1434
85°	1020	1224	1430

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5396 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	532.3	4.7
10°-20°	1460.9	13.0
20°-30°	2022.5	18.0
30°-40°	2156.5	19.2
40°-50°	1967.4	17.5
50°-60°	1541.3	13.7
60°-70°	1004.5	8.9
70°-80°	445.1	4.0
80°-90°	95.6	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°	4015.6	35.8
0°-40°	6172.2	55.0
0°-60°	9680.8	86.2
0°-90°	11226.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11226.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5718	5718	5718	5718	5718	
5°	5619	5613	5613	5606	5606	533
15°	5256	5256	5203	5150	5130	1478
25°	4555	4528	4456	4297	4178	2091
35°	3696	3669	3490	3226	3147	2310
45°	2836	2777	2539	2327	2234	2185
55°	1970	1910	1732	1527	1448	1767
65°	1170	1104	998	1018	846	1153
75°	469	436	410	390	430	503
85°	66	73	79	86	93	92
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5718.4	5718.4	5718.4	5718.4	5718.4
2.5°	5678.7	5678.7	5678.7	5672.1	5672.1
5°	5619.2	5612.6	5612.6	5606.0	5606.0
7.5°	5572.9	5566.3	5559.7	5553.1	5539.9
10°	5506.8	5506.8	5500.2	5467.2	5460.6
12.5°	5401.1	5394.4	5368.0	5321.7	5308.5
15°	5255.6	5255.6	5202.7	5149.8	5130.0
17.5°	5097.0	5090.3	5024.2	4971.3	4944.9
20°	4925.1	4911.9	4845.7	4759.8	4713.5
22.5°	4733.4	4733.4	4654.0	4541.6	4495.4
25°	4554.9	4528.4	4455.7	4297.0	4178.0
27.5°	4349.9	4310.3	4230.9	4006.2	3867.3
30°	4125.2	4105.3	3992.9	3702.1	3596.3
32.5°	3913.6	3880.6	3761.6	3457.5	3371.5
35°	3695.5	3669.0	3490.5	3226.1	3146.8
37.5°	3477.3	3444.2	3219.5	3007.9	2908.8
40°	3259.1	3219.5	2974.9	2783.2	2677.4
42.5°	3054.2	3001.3	2763.3	2558.4	2439.4
45°	2836.0	2776.6	2538.6	2327.0	2234.5
47.5°	2617.9	2565.0	2346.8	2128.7	2022.9
50°	2386.5	2340.2	2141.9	1923.8	1811.4
52.5°	2194.8	2122.1	1930.4	1712.2	1619.7
55°	1970.0	1910.5	1732.0	1527.1	1447.8
57.5°	1765.1	1705.6	1540.3	1348.6	1282.5
60°	1573.4	1487.4	1348.6	1183.3	1130.5
62.5°	1361.8	1295.7	1176.7	1037.9	1104.0
65°	1170.1	1104.0	998.2	1018.1	846.2
67.5°	958.6	925.5	833.0	740.4	714.0
70°	780.1	740.4	707.4	608.2	581.8
72.5°	621.4	581.8	535.5	482.6	462.8
75°	469.4	436.3	409.9	390.0	429.7
77.5°	323.9	310.7	290.9	271.0	264.4
80°	211.5	204.9	198.3	191.7	185.1
82.5°	125.6	125.6	125.6	125.6	125.6
85°	66.1	72.7	79.3	85.9	92.6
87.5°	39.7	39.7	46.3	52.9	59.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)