

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: P562612

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562612  
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-LD4-2HI-50-UNV-80-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

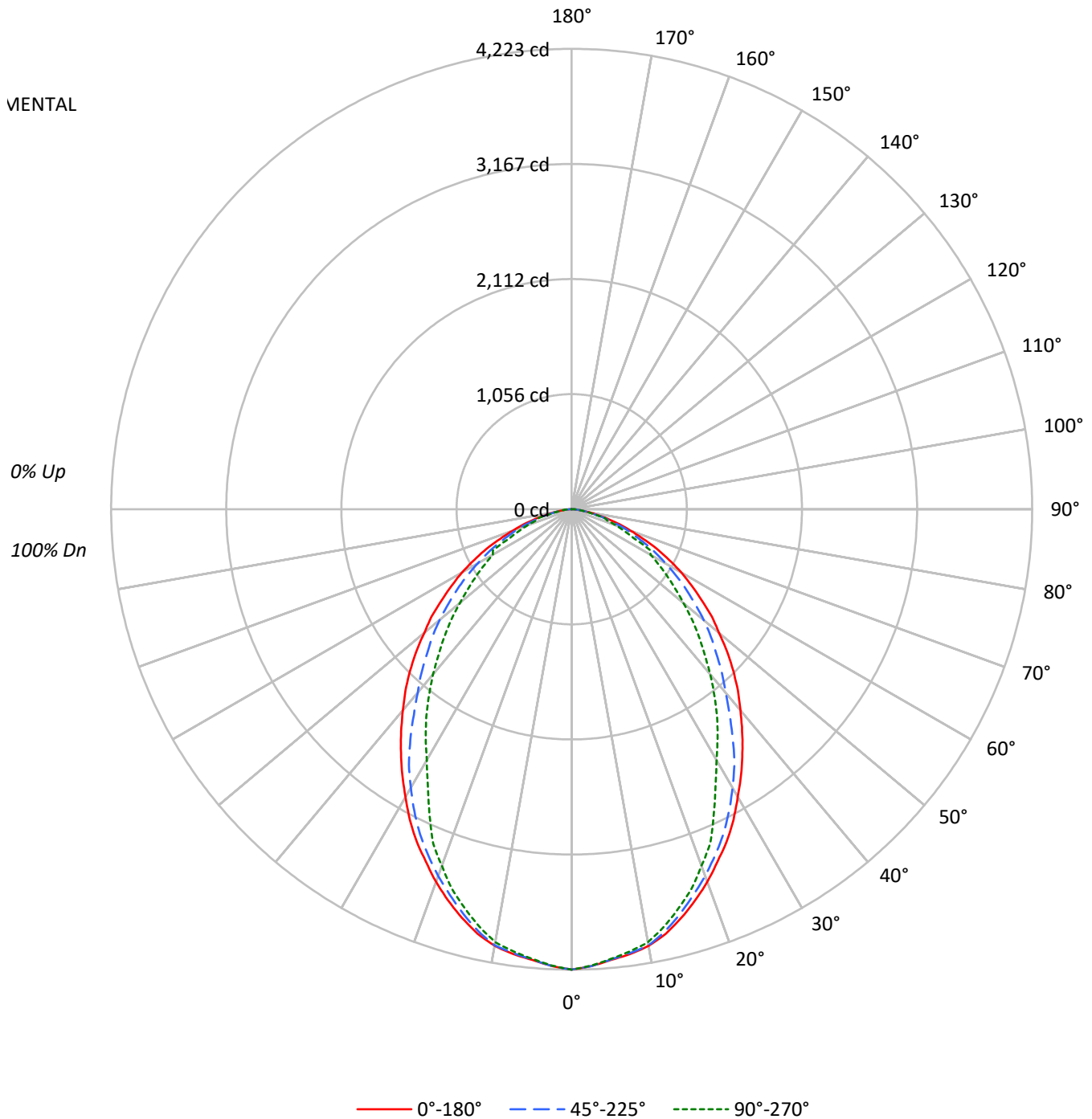
Lumens per Lamp: N/A  
Luminaire Lumens: 8290.0 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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				
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°	5682	5682	5682
5°	5605	5598	5591
10°	5556	5549	5509
15°	5406	5352	5277
20°	5208	5124	4984
25°	4994	4885	4580
30°	4733	4581	4126
35°	4482	4234	3817
40°	4227	3858	3473
45°	3985	3567	3140
50°	3689	3311	2800
55°	3413	3000	2508
60°	3127	2680	2246
65°	2751	2347	1989
70°	2266	2055	1690
75°	1802	1574	1650
80°	1210	1135	1059
85°	753	905	1054

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3985 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	393.1	4.7
10°-20°	1078.8	13.0
20°-30°	1493.5	18.0
30°-40°	1592.5	19.2
40°-50°	1452.9	17.5
50°-60°	1138.2	13.7
60°-70°	741.8	8.9
70°-80°	328.7	4.0
80°-90°	70.6	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°	2965.4	35.8
0°-40°	4557.9	55.0
0°-60°	7149.0	86.2
0°-90°	8290.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8290.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4223	4223	4223	4223	4223	
5°	4150	4145	4145	4140	4140	394
15°	3881	3881	3842	3803	3788	1091
25°	3364	3344	3290	3173	3085	1544
35°	2729	2709	2578	2382	2324	1706
45°	2094	2050	1875	1718	1650	1613
55°	1455	1411	1279	1128	1069	1305
65°	864	815	737	752	625	852
75°	347	322	303	288	317	371
85°	49	54	59	64	68	68
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4222.8	4222.8	4222.8	4222.8	4222.8
2.5°	4193.5	4193.5	4193.5	4188.6	4188.6
5°	4149.6	4144.7	4144.7	4139.8	4139.8
7.5°	4115.4	4110.5	4105.7	4100.8	4091.0
10°	4066.6	4066.6	4061.7	4037.3	4032.4
12.5°	3988.5	3983.6	3964.1	3929.9	3920.1
15°	3881.1	3881.1	3842.0	3803.0	3788.3
17.5°	3763.9	3759.0	3710.2	3671.2	3651.6
20°	3637.0	3627.2	3578.4	3514.9	3480.8
22.5°	3495.4	3495.4	3436.8	3353.8	3319.7
25°	3363.6	3344.1	3290.4	3173.2	3085.3
27.5°	3212.3	3183.0	3124.4	2958.4	2855.9
30°	3046.3	3031.6	2948.6	2733.8	2655.7
32.5°	2890.1	2865.7	2777.8	2553.2	2489.8
35°	2729.0	2709.4	2577.6	2382.4	2323.8
37.5°	2567.9	2543.5	2377.5	2221.2	2148.0
40°	2406.8	2377.5	2196.8	2055.3	1977.2
42.5°	2255.4	2216.4	2040.6	1889.3	1801.4
45°	2094.3	2050.4	1874.6	1718.4	1650.1
47.5°	1933.2	1894.2	1733.1	1572.0	1493.9
50°	1762.4	1728.2	1581.7	1420.6	1337.6
52.5°	1620.8	1567.1	1425.5	1264.4	1196.1
55°	1454.8	1410.9	1279.0	1127.7	1069.1
57.5°	1303.5	1259.5	1137.5	995.9	947.1
60°	1161.9	1098.4	995.9	873.9	834.8
62.5°	1005.7	956.8	869.0	766.5	815.3
65°	864.1	815.3	737.2	751.8	624.9
67.5°	707.9	683.5	615.1	546.8	527.2
70°	576.1	546.8	522.4	449.1	429.6
72.5°	458.9	429.6	395.4	356.4	341.7
75°	346.6	322.2	302.7	288.0	317.3
77.5°	239.2	229.4	214.8	200.2	195.3
80°	156.2	151.3	146.5	141.6	136.7
82.5°	92.8	92.8	92.8	92.8	92.8
85°	48.8	53.7	58.6	63.5	68.3
87.5°	29.3	29.3	34.2	39.1	43.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)