

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: P564102

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-81-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564102  
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-LD4-4STD-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

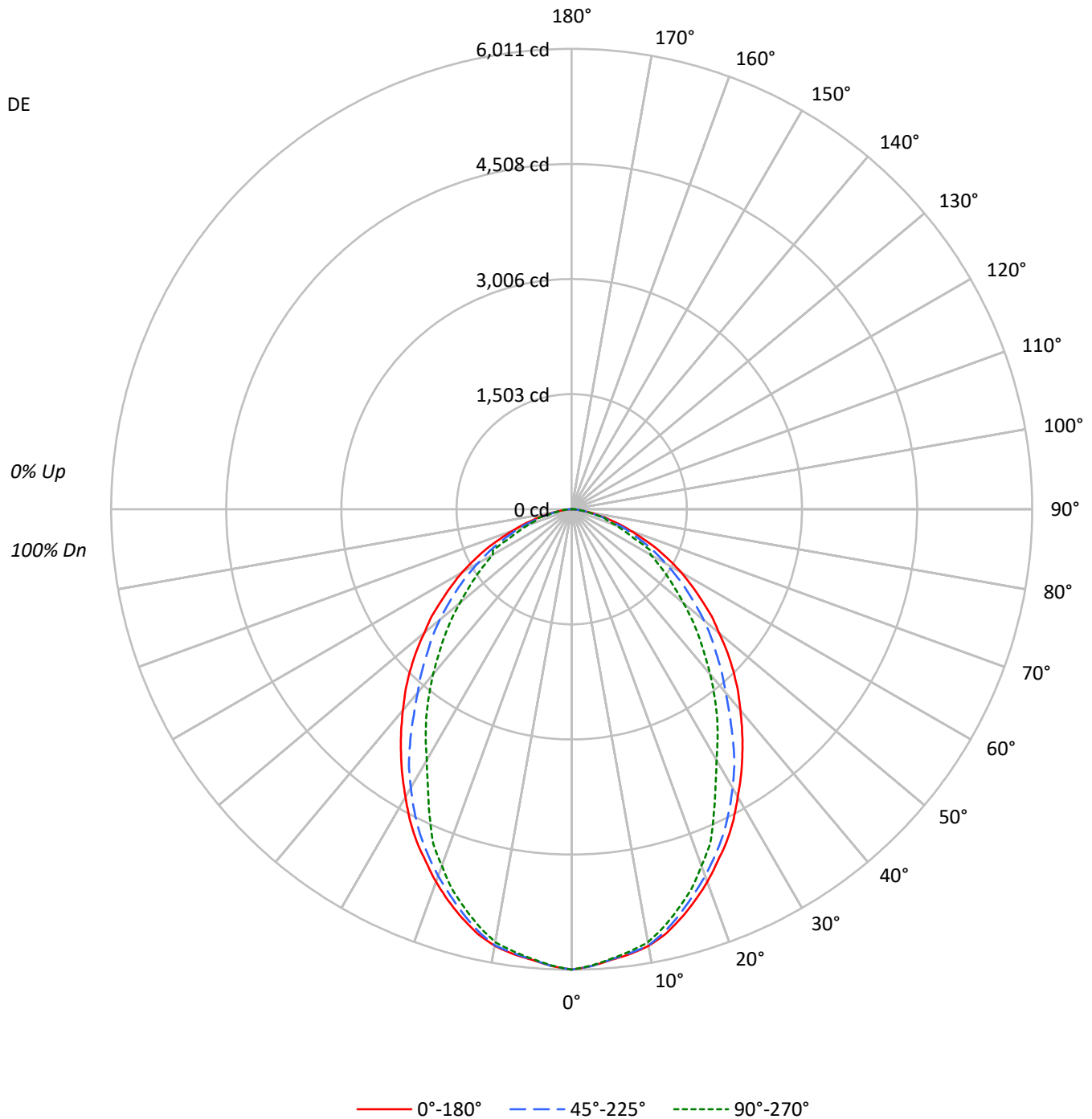
Lumens per Lamp: N/A  
Luminaire Lumens: 11800.0 lumens  
Efficiency: N/A  
Efficacy: 88.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																												
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°	8087	8087	8087
5°	7977	7968	7959
10°	7908	7899	7842
15°	7695	7618	7511
20°	7412	7293	7094
25°	7108	6953	6520
30°	6737	6521	5873
35°	6380	6026	5433
40°	6017	5492	4943
45°	5672	5077	4469
50°	5251	4713	3985
55°	4858	4271	3570
60°	4450	3815	3198
65°	3916	3341	2832
70°	3226	2925	2406
75°	2565	2240	2348
80°	1723	1616	1508
85°	1073	1288	1502

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5672 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	559.5	4.7
10°-20°	1535.6	13.0
20°-30°	2125.9	18.0
30°-40°	2266.8	19.2
40°-50°	2068.0	17.5
50°-60°	1620.1	13.7
60°-70°	1055.9	8.9
70°-80°	467.8	4.0
80°-90°	100.4	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°	4221.0	35.8
0°-40°	6487.8	55.0
0°-60°	10175.9	86.2
0°-90°	11800.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11800.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6011	6011	6011	6011	6011	
5°	5906	5900	5900	5893	5893	561
15°	5524	5524	5469	5413	5392	1553
25°	4788	4760	4684	4517	4392	2198
35°	3884	3857	3669	3391	3308	2428
45°	2981	2918	2668	2446	2349	2296
55°	2071	2008	1821	1605	1522	1857
65°	1230	1160	1049	1070	890	1212
75°	493	459	431	410	452	529
85°	70	76	83	90	97	96
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6010.8	6010.8	6010.8	6010.8	6010.8
2.5°	5969.1	5969.1	5969.1	5962.1	5962.1
5°	5906.5	5899.6	5899.6	5892.6	5892.6
7.5°	5857.9	5850.9	5844.0	5837.0	5823.1
10°	5788.4	5788.4	5781.5	5746.7	5739.8
12.5°	5677.2	5670.3	5642.5	5593.8	5579.9
15°	5524.3	5524.3	5468.8	5413.2	5392.3
17.5°	5357.6	5350.6	5281.1	5225.5	5197.7
20°	5176.9	5163.0	5093.5	5003.2	4954.5
22.5°	4975.4	4975.4	4892.0	4773.9	4725.2
25°	4787.8	4760.0	4683.5	4516.8	4391.7
27.5°	4572.3	4530.7	4447.3	4211.0	4065.1
30°	4336.1	4315.2	4197.1	3891.4	3780.2
32.5°	4113.7	4079.0	3953.9	3634.3	3543.9
35°	3884.4	3856.6	3669.0	3391.0	3307.7
37.5°	3655.1	3620.4	3384.1	3161.7	3057.5
40°	3425.8	3384.1	3127.0	2925.5	2814.3
42.5°	3210.4	3154.8	2904.6	2689.2	2564.1
45°	2981.1	2918.5	2668.4	2446.0	2348.7
47.5°	2751.7	2696.2	2466.8	2237.5	2126.4
50°	2508.5	2459.9	2251.4	2022.1	1904.0
52.5°	2307.0	2230.6	2029.1	1799.8	1702.5
55°	2070.8	2008.2	1820.6	1605.2	1521.8
57.5°	1855.3	1792.8	1619.1	1417.6	1348.1
60°	1653.8	1563.5	1417.6	1243.8	1188.3
62.5°	1431.5	1362.0	1236.9	1091.0	1160.5
65°	1229.9	1160.5	1049.3	1070.1	889.5
67.5°	1007.6	972.8	875.6	778.3	750.5
70°	820.0	778.3	743.5	639.3	611.5
72.5°	653.2	611.5	562.9	507.3	486.4
75°	493.4	458.6	430.8	410.0	451.7
77.5°	340.5	326.6	305.7	284.9	278.0
80°	222.4	215.4	208.5	201.5	194.6
82.5°	132.0	132.0	132.0	132.0	132.0
85°	69.5	76.4	83.4	90.3	97.3
87.5°	41.7	41.7	48.6	55.6	62.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)