

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: P564048

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-82-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564048  
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-35-UNV-82-84-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

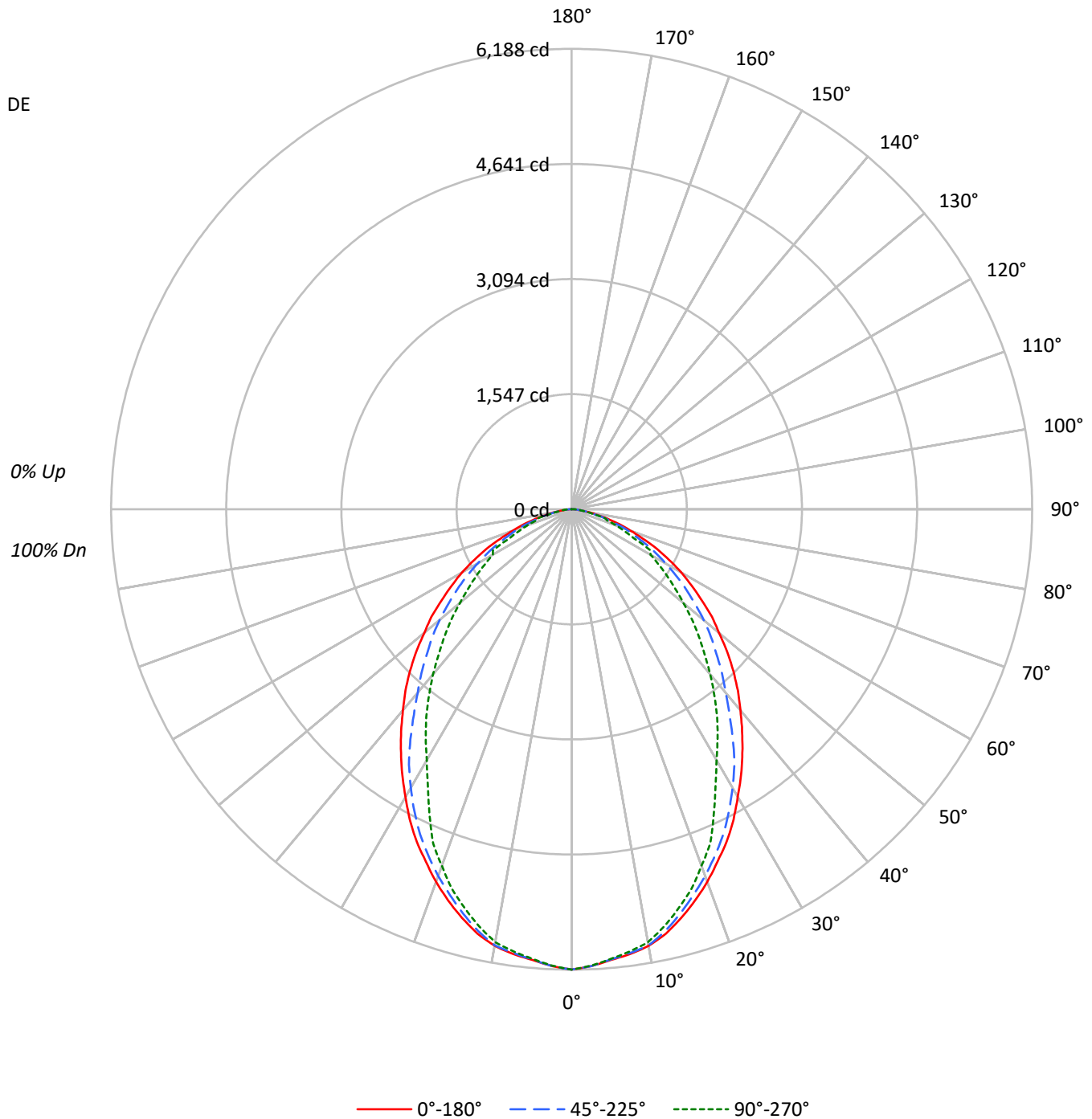
Lumens per Lamp: N/A  
Luminaire Lumens: 12147.0 lumens  
Efficiency: N/A  
Efficacy: 91.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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													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°	8325	8325	8325
5°	8212	8203	8193
10°	8141	8131	8072
15°	7921	7842	7732
20°	7630	7508	7303
25°	7317	7158	6712
30°	6935	6712	6046
35°	6568	6204	5593
40°	6194	5654	5088
45°	5839	5227	4601
50°	5405	4851	4103
55°	5001	4396	3675
60°	4581	3927	3292
65°	4031	3439	2915
70°	3321	3011	2476
75°	2640	2306	2417
80°	1774	1663	1552
85°	1104	1325	1545

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5839 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	576.0	4.7
10°-20°	1580.7	13.0
20°-30°	2188.4	18.0
30°-40°	2333.5	19.2
40°-50°	2128.8	17.5
50°-60°	1667.7	13.7
60°-70°	1087.0	8.9
70°-80°	481.6	4.0
80°-90°	103.4	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°	4345.1	35.8
0°-40°	6678.5	55.0
0°-60°	10475.1	86.2
0°-90°	12147.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12147.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6188	6188	6188	6188	6188	
5°	6080	6073	6073	6066	6066	577
15°	5687	5687	5630	5572	5551	1599
25°	4929	4900	4821	4650	4521	2263
35°	3999	3970	3777	3491	3405	2500
45°	3069	3004	2747	2518	2418	2364
55°	2132	2067	1874	1652	1567	1912
65°	1266	1195	1080	1102	916	1248
75°	508	472	444	422	465	544
85°	72	79	86	93	100	99
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6187.5	6187.5	6187.5	6187.5	6187.5
2.5°	6144.6	6144.6	6144.6	6137.4	6137.4
5°	6080.2	6073.1	6073.1	6065.9	6065.9
7.5°	6030.1	6023.0	6015.8	6008.7	5994.4
10°	5958.6	5958.6	5951.5	5915.7	5908.5
12.5°	5844.2	5837.0	5808.4	5758.3	5744.0
15°	5686.8	5686.8	5629.6	5572.3	5550.9
17.5°	5515.1	5508.0	5436.4	5379.2	5350.6
20°	5329.1	5314.8	5243.3	5150.3	5100.2
22.5°	5121.7	5121.7	5035.9	4914.2	4864.2
25°	4928.6	4899.9	4821.3	4649.6	4520.8
27.5°	4706.8	4663.9	4578.0	4334.8	4184.6
30°	4463.6	4442.1	4320.5	4005.8	3891.3
32.5°	4234.7	4198.9	4070.2	3741.1	3648.1
35°	3998.6	3970.0	3776.9	3490.8	3404.9
37.5°	3762.6	3726.8	3483.6	3254.7	3147.4
40°	3526.5	3483.6	3218.9	3011.5	2897.0
42.5°	3304.8	3247.6	2990.0	2768.3	2639.5
45°	3068.7	3004.3	2746.8	2517.9	2417.8
47.5°	2832.7	2775.4	2539.4	2303.3	2188.9
50°	2582.3	2532.2	2317.6	2081.6	1960.0
52.5°	2374.9	2296.2	2088.7	1852.7	1752.5
55°	2131.7	2067.3	1874.1	1652.4	1566.6
57.5°	1909.9	1845.5	1666.7	1459.3	1387.7
60°	1702.5	1609.5	1459.3	1280.4	1223.2
62.5°	1473.6	1402.0	1273.3	1123.1	1194.6
65°	1266.1	1194.6	1080.1	1101.6	915.6
67.5°	1037.2	1001.4	901.3	801.2	772.5
70°	844.1	801.2	765.4	658.1	629.5
72.5°	672.4	629.5	579.4	522.2	500.7
75°	507.9	472.1	443.5	422.0	465.0
77.5°	350.5	336.2	314.7	293.3	286.1
80°	228.9	221.7	214.6	207.4	200.3
82.5°	135.9	135.9	135.9	135.9	135.9
85°	71.5	78.7	85.8	93.0	100.1
87.5°	42.9	42.9	50.1	57.2	64.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)