

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: P563225

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-82-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563225  
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-LD4-3HI-50-UNV-82-88-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

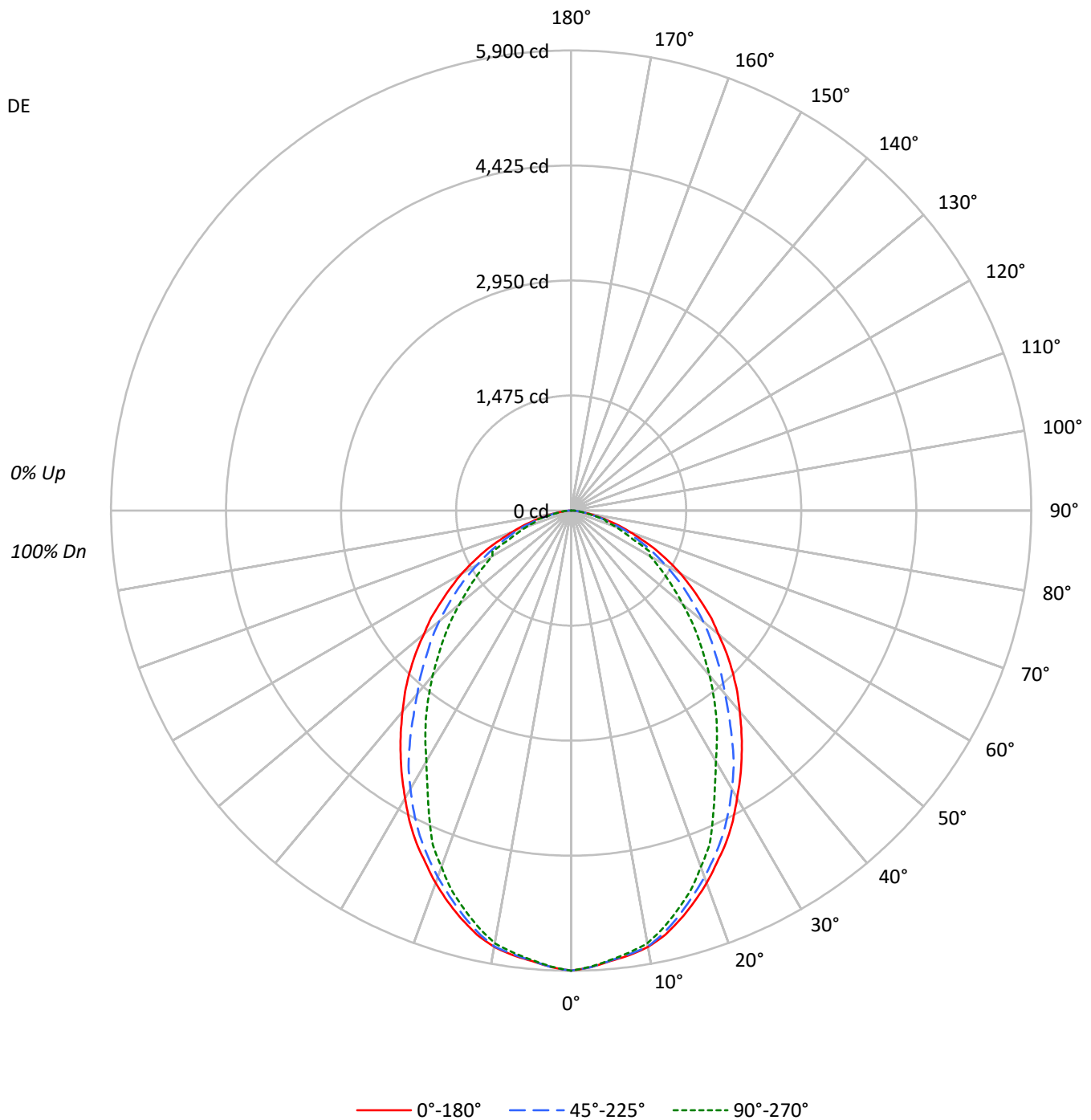
Lumens per Lamp: N/A  
Luminaire Lumens: 11582.0 lumens  
Efficiency: N/A  
Efficacy: 89.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7938	7938	7938
5°	7830	7821	7812
10°	7762	7753	7697
15°	7553	7477	7372
20°	7276	7158	6963
25°	6977	6825	6399
30°	6612	6400	5764
35°	6262	5915	5333
40°	5906	5391	4852
45°	5568	4984	4387
50°	5154	4626	3912
55°	4768	4192	3504
60°	4368	3744	3138
65°	3843	3279	2779
70°	3166	2871	2361
75°	2518	2198	2305
80°	1691	1585	1480
85°	1053	1263	1474

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5568 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	549.2	4.7
10°-20°	1507.2	13.0
20°-30°	2086.6	18.0
30°-40°	2224.9	19.2
40°-50°	2029.8	17.5
50°-60°	1590.2	13.7
60°-70°	1036.4	8.9
70°-80°	459.2	4.0
80°-90°	98.6	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°	4143.0	35.8
0°-40°	6367.9	55.0
0°-60°	9987.9	86.2
0°-90°	11582.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11582.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5900	5900	5900	5900	5900	
5°	5797	5791	5791	5784	5784	550
15°	5422	5422	5368	5313	5293	1524
25°	4699	4672	4597	4433	4310	2157
35°	3813	3785	3601	3328	3246	2384
45°	2926	2865	2619	2401	2305	2254
55°	2032	1971	1787	1576	1494	1823
65°	1207	1139	1030	1050	873	1190
75°	484	450	423	402	443	519
85°	68	75	82	89	96	95
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5899.7	5899.7	5899.7	5899.7	5899.7
2.5°	5858.8	5858.8	5858.8	5852.0	5852.0
5°	5797.4	5790.6	5790.6	5783.8	5783.8
7.5°	5749.7	5742.8	5736.0	5729.2	5715.6
10°	5681.5	5681.5	5674.6	5640.5	5633.7
12.5°	5572.3	5565.5	5538.2	5490.5	5476.8
15°	5422.3	5422.3	5367.7	5313.2	5292.7
17.5°	5258.6	5251.8	5183.6	5129.0	5101.7
20°	5081.3	5067.6	4999.4	4910.7	4863.0
22.5°	4883.5	4883.5	4801.6	4685.7	4637.9
25°	4699.3	4672.0	4597.0	4433.3	4310.5
27.5°	4487.9	4447.0	4365.1	4133.2	3990.0
30°	4256.0	4235.5	4119.6	3819.5	3710.3
32.5°	4037.7	4003.6	3880.9	3567.1	3478.4
35°	3812.6	3785.4	3601.2	3328.4	3246.5
37.5°	3587.6	3553.5	3321.6	3103.3	3001.0
40°	3362.5	3321.6	3069.2	2871.4	2762.3
42.5°	3151.1	3096.5	2851.0	2639.5	2516.8
45°	2926.0	2864.6	2619.1	2400.8	2305.3
47.5°	2700.9	2646.3	2421.3	2196.2	2087.1
50°	2462.2	2414.5	2209.8	1984.8	1868.8
52.5°	2264.4	2189.4	1991.6	1766.5	1671.0
55°	2032.5	1971.1	1787.0	1575.5	1493.7
57.5°	1821.1	1759.7	1589.2	1391.4	1323.2
60°	1623.3	1534.6	1391.4	1220.9	1166.3
62.5°	1405.0	1336.8	1214.0	1070.8	1139.0
65°	1207.2	1139.0	1029.9	1050.4	873.0
67.5°	989.0	954.9	859.4	763.9	736.6
70°	804.8	763.9	729.8	627.5	600.2
72.5°	641.1	600.2	552.5	497.9	477.4
75°	484.3	450.2	422.9	402.4	443.3
77.5°	334.2	320.6	300.1	279.6	272.8
80°	218.3	211.4	204.6	197.8	191.0
82.5°	129.6	129.6	129.6	129.6	129.6
85°	68.2	75.0	81.8	88.7	95.5
87.5°	40.9	40.9	47.7	54.6	61.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)