

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: P563672

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-82-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563672  
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-LD4-4HI-35-UNV-82-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

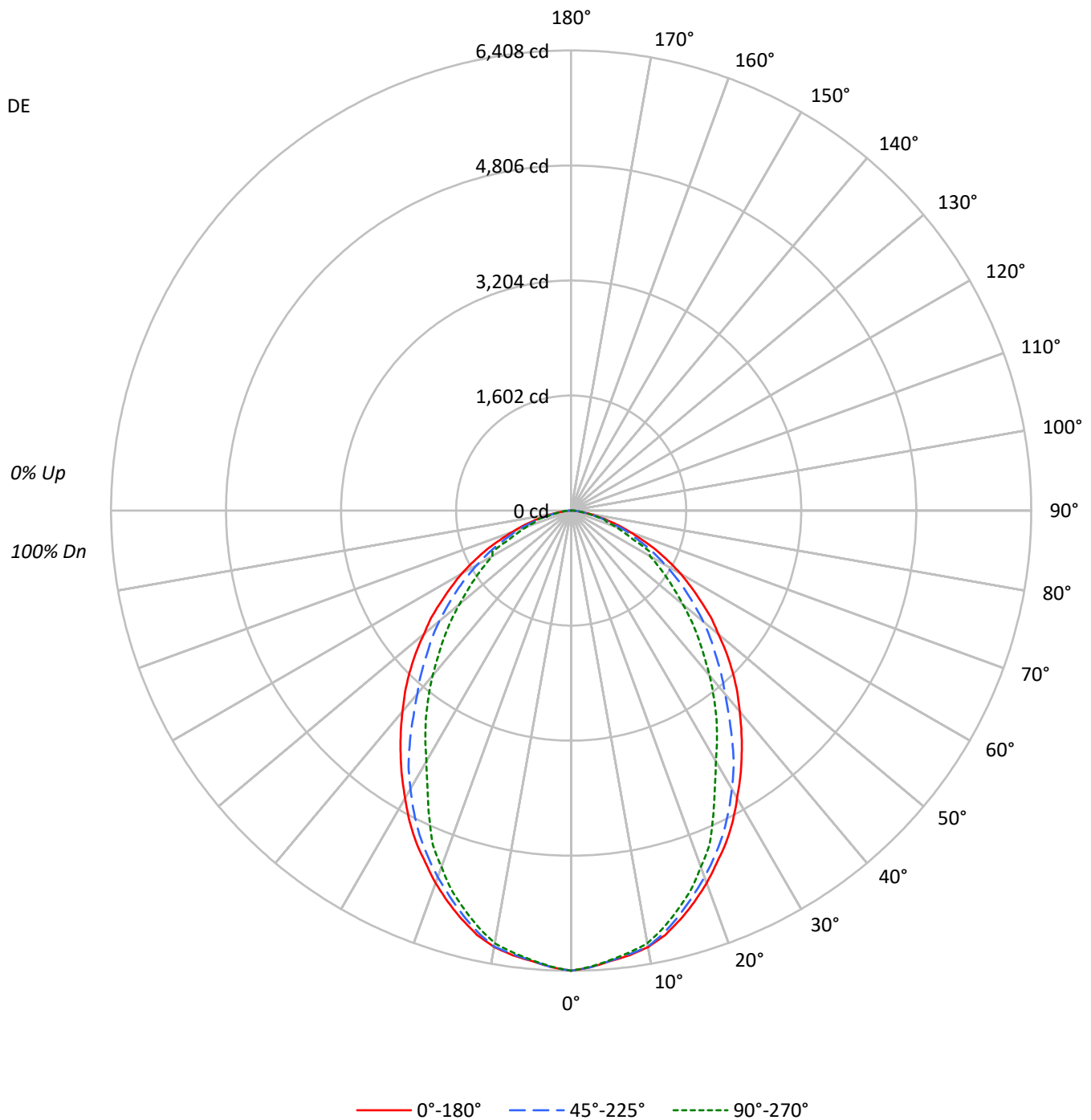
Lumens per Lamp: N/A  
Luminaire Lumens: 12580.0 lumens  
Efficiency: N/A  
Efficacy: 72.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	8622	8622	8622
5°	8505	8495	8485
10°	8431	8421	8360
15°	8204	8121	8008
20°	7902	7775	7563
25°	7578	7413	6951
30°	7182	6952	6261
35°	6802	6425	5792
40°	6415	5855	5270
45°	6047	5413	4765
50°	5598	5024	4249
55°	5179	4553	3806
60°	4744	4067	3409
65°	4174	3561	3019
70°	3439	3118	2565
75°	2734	2388	2503
80°	1837	1722	1607
85°	1144	1372	1601

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6047 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	596.5	4.7
10°-20°	1637.1	13.0
20°-30°	2266.4	18.0
30°-40°	2416.6	19.2
40°-50°	2204.7	17.5
50°-60°	1727.2	13.7
60°-70°	1125.7	8.9
70°-80°	498.7	4.0
80°-90°	107.1	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°	4500.0	35.8
0°-40°	6916.6	55.0
0°-60°	10848.5	86.2
0°-90°	12580.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12580.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6408	6408	6408	6408	6408	
5°	6297	6290	6290	6282	6282	598
15°	5890	5890	5830	5771	5749	1656
25°	5104	5075	4993	4815	4682	2343
35°	4141	4112	3912	3615	3526	2589
45°	3178	3111	2845	2608	2504	2448
55°	2208	2141	1941	1711	1622	1980
65°	1311	1237	1119	1141	948	1292
75°	526	489	459	437	482	564
85°	74	82	89	96	104	103
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6408.1	6408.1	6408.1	6408.1	6408.1
2.5°	6363.6	6363.6	6363.6	6356.2	6356.2
5°	6297.0	6289.6	6289.6	6282.1	6282.1
7.5°	6245.1	6237.7	6230.3	6222.9	6208.1
10°	6171.0	6171.0	6163.6	6126.6	6119.2
12.5°	6052.5	6045.1	6015.4	5963.6	5948.8
15°	5889.5	5889.5	5830.2	5771.0	5748.8
17.5°	5711.7	5704.3	5630.2	5571.0	5541.3
20°	5519.1	5504.3	5430.2	5333.9	5282.0
22.5°	5304.3	5304.3	5215.4	5089.4	5037.6
25°	5104.2	5074.6	4993.1	4815.3	4682.0
27.5°	4874.6	4830.1	4741.2	4489.4	4333.8
30°	4622.7	4600.5	4474.5	4148.6	4030.1
32.5°	4385.6	4348.6	4215.3	3874.5	3778.2
35°	4141.2	4111.5	3911.5	3615.2	3526.3
37.5°	3896.7	3859.7	3607.8	3370.7	3259.6
40°	3652.2	3607.8	3333.7	3118.8	3000.3
42.5°	3422.6	3363.3	3096.6	2867.0	2733.6
45°	3178.1	3111.4	2844.7	2607.7	2504.0
47.5°	2933.6	2874.4	2629.9	2385.4	2266.9
50°	2674.4	2622.5	2400.3	2155.8	2029.8
52.5°	2459.5	2378.0	2163.2	1918.7	1815.0
55°	2207.6	2141.0	1940.9	1711.3	1622.4
57.5°	1978.0	1911.3	1726.1	1511.3	1437.2
60°	1763.1	1666.8	1511.3	1326.1	1266.8
62.5°	1526.1	1452.0	1318.7	1163.1	1237.2
65°	1311.2	1237.2	1118.6	1140.9	948.2
67.5°	1074.2	1037.1	933.4	829.7	800.1
70°	874.2	829.7	792.7	681.6	651.9
72.5°	696.4	651.9	600.1	540.8	518.6
75°	526.0	488.9	459.3	437.1	481.5
77.5°	363.0	348.2	326.0	303.7	296.3
80°	237.1	229.7	222.2	214.8	207.4
82.5°	140.8	140.8	140.8	140.8	140.8
85°	74.1	81.5	88.9	96.3	103.7
87.5°	44.4	44.4	51.9	59.3	66.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)