

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: P563091

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-82-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563091  
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-35-UNV-82-85-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

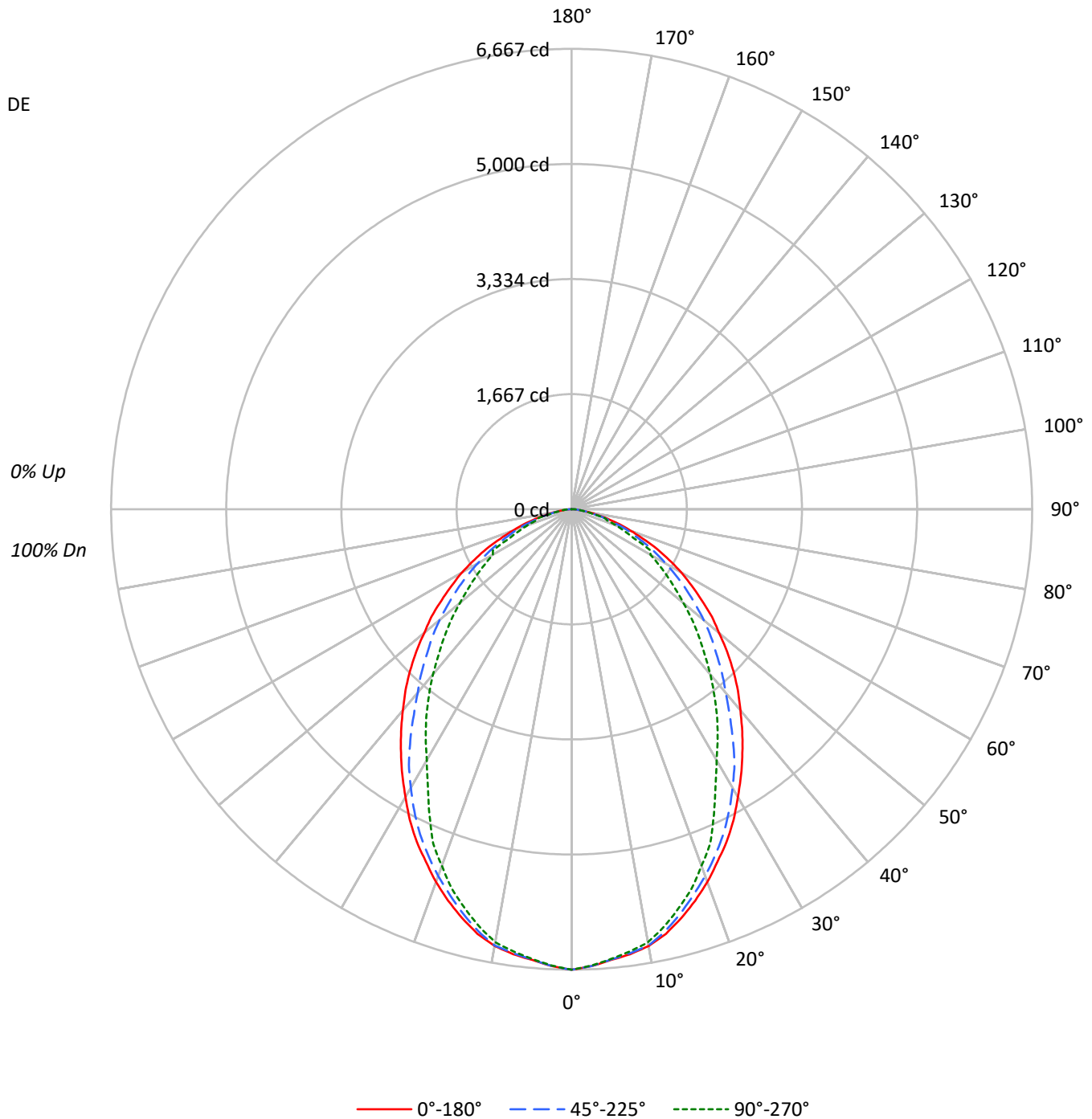
Lumens per Lamp: N/A  
Luminaire Lumens: 13089.0 lumens  
Efficiency: N/A  
Efficacy: 101.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8971	8971	8971
5°	8849	8839	8828
10°	8772	8762	8699
15°	8536	8450	8332
20°	8222	8090	7869
25°	7884	7713	7232
30°	7473	7233	6515
35°	7077	6685	6026
40°	6674	6092	5483
45°	6292	5632	4957
50°	5825	5228	4421
55°	5388	4737	3960
60°	4937	4231	3547
65°	4344	3706	3141
70°	3578	3244	2668
75°	2845	2484	2604
80°	1912	1791	1672
85°	1190	1428	1666

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6292 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	620.6	4.7
10°-20°	1703.3	13.0
20°-30°	2358.1	18.0
30°-40°	2514.4	19.2
40°-50°	2293.9	17.5
50°-60°	1797.1	13.7
60°-70°	1171.2	8.9
70°-80°	518.9	4.0
80°-90°	111.4	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°	4682.0	35.8
0°-40°	7196.5	55.0
0°-60°	11287.4	86.2
0°-90°	13089.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13089.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6667	6667	6667	6667	6667	
5°	6552	6544	6544	6536	6536	622
15°	6128	6128	6066	6004	5981	1723
25°	5311	5280	5195	5010	4871	2438
35°	4309	4278	4070	3762	3669	2694
45°	3307	3237	2960	2713	2605	2547
55°	2297	2228	2020	1780	1688	2060
65°	1364	1287	1164	1187	987	1345
75°	547	509	478	455	501	587
85°	77	85	92	100	108	107
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6667.4	6667.4	6667.4	6667.4	6667.4
2.5°	6621.1	6621.1	6621.1	6613.4	6613.4
5°	6551.7	6544.0	6544.0	6536.3	6536.3
7.5°	6497.8	6490.1	6482.4	6474.7	6459.2
10°	6420.7	6420.7	6413.0	6374.5	6366.8
12.5°	6297.4	6289.7	6258.8	6204.9	6189.5
15°	6127.8	6127.8	6066.1	6004.5	5981.4
17.5°	5942.8	5935.1	5858.0	5796.4	5765.5
20°	5742.4	5727.0	5649.9	5549.7	5495.8
22.5°	5518.9	5518.9	5426.4	5295.3	5241.4
25°	5310.8	5279.9	5195.1	5010.2	4871.4
27.5°	5071.8	5025.6	4933.1	4671.0	4509.1
30°	4809.7	4786.6	4655.6	4316.4	4193.1
32.5°	4563.1	4524.6	4385.8	4031.2	3931.0
35°	4308.7	4277.9	4069.8	3761.5	3669.0
37.5°	4054.4	4015.8	3753.8	3507.1	3391.5
40°	3800.0	3753.8	3468.6	3245.0	3121.7
42.5°	3561.1	3499.4	3221.9	2983.0	2844.2
45°	3306.7	3237.3	2959.8	2713.2	2605.3
47.5°	3052.3	2990.7	2736.3	2482.0	2358.6
50°	2782.6	2728.6	2497.4	2243.0	2112.0
52.5°	2559.0	2474.2	2250.7	1996.4	1888.4
55°	2297.0	2227.6	2019.5	1780.5	1688.0
57.5°	2058.0	1988.6	1795.9	1572.4	1495.3
60°	1834.5	1734.3	1572.4	1379.7	1318.1
62.5°	1587.8	1510.8	1372.0	1210.1	1287.2
65°	1364.3	1287.2	1163.9	1187.0	986.6
67.5°	1117.7	1079.1	971.2	863.3	832.5
70°	909.5	863.3	824.7	709.1	678.3
72.5°	724.5	678.3	624.3	562.7	539.6
75°	547.3	508.7	477.9	454.8	501.0
77.5°	377.7	362.3	339.1	316.0	308.3
80°	246.7	238.9	231.2	223.5	215.8
82.5°	146.5	146.5	146.5	146.5	146.5
85°	77.1	84.8	92.5	100.2	107.9
87.5°	46.2	46.2	54.0	61.7	69.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)