

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: P562521

Luminaire Tested: FSR-24-4-LD4-2HI-35-UNV-82-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562521  
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-LD4-2HI-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

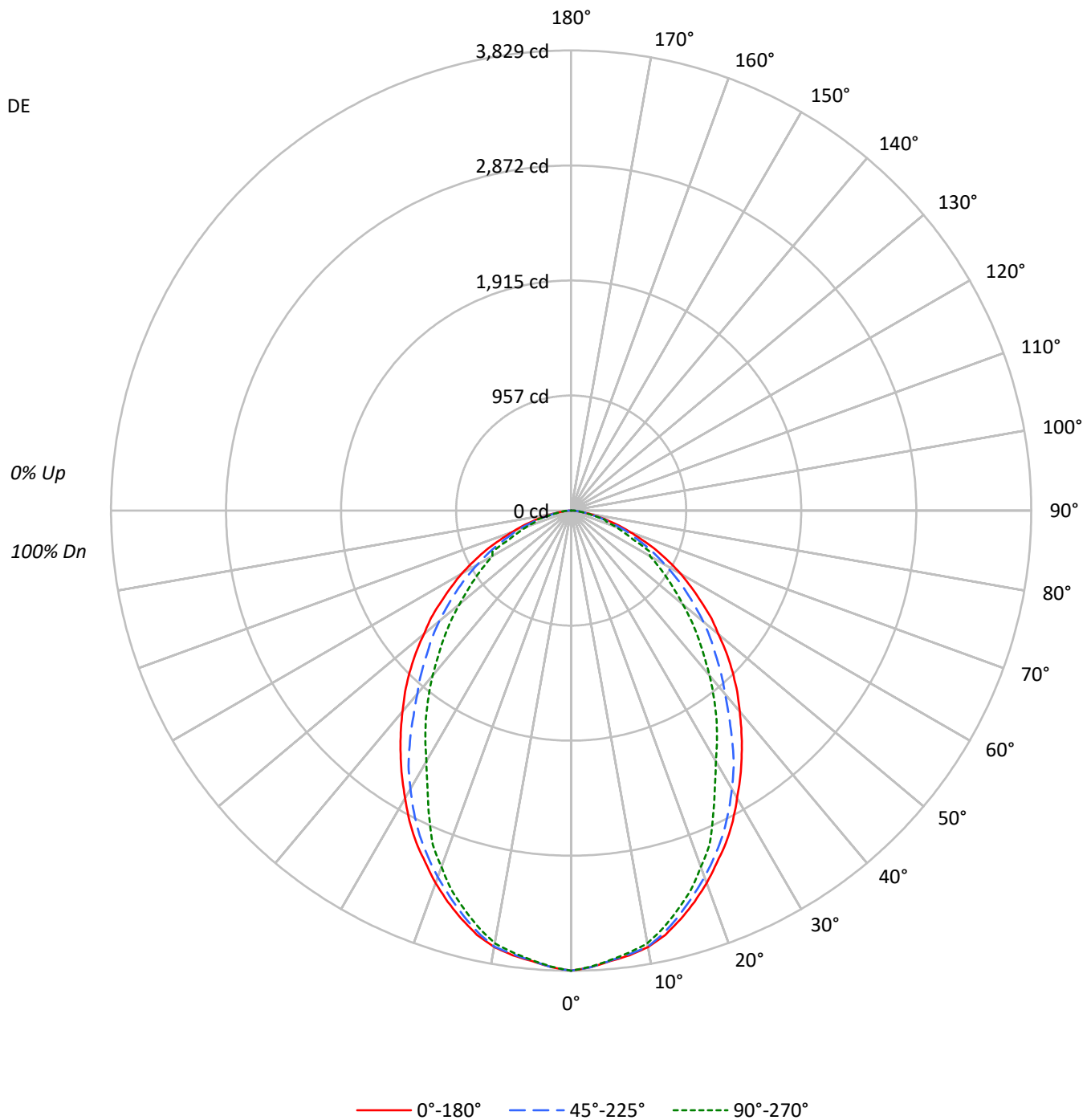
Lumens per Lamp: N/A  
Luminaire Lumens: 7517.0 lumens  
Efficiency: N/A  
Efficacy: 87.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5152	5152	5152
5°	5082	5076	5070
10°	5038	5032	4996
15°	4902	4853	4785
20°	4722	4646	4519
25°	4528	4429	4153
30°	4291	4154	3741
35°	4064	3839	3461
40°	3833	3499	3149
45°	3613	3234	2847
50°	3345	3002	2539
55°	3094	2721	2274
60°	2835	2430	2037
65°	2494	2128	1804
70°	2055	1864	1532
75°	1634	1427	1496
80°	1098	1029	960
85°	684	820	957

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3613 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	356.4	4.7
10°-20°	978.2	13.0
20°-30°	1354.3	18.0
30°-40°	1444.0	19.2
40°-50°	1317.4	17.5
50°-60°	1032.1	13.7
60°-70°	672.6	8.9
70°-80°	298.0	4.0
80°-90°	64.0	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°	2688.9	35.8
0°-40°	4132.9	55.0
0°-60°	6482.4	86.2
0°-90°	7517.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7517.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3829	3829	3829	3829	3829	
5°	3763	3758	3758	3754	3754	357
15°	3519	3519	3484	3448	3435	989
25°	3050	3032	2984	2877	2798	1400
35°	2474	2457	2337	2160	2107	1547
45°	1899	1859	1700	1558	1496	1463
55°	1319	1279	1160	1023	969	1183
65°	784	739	668	682	567	772
75°	314	292	274	261	288	337
85°	44	49	53	58	62	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3829.1	3829.1	3829.1	3829.1	3829.1
2.5°	3802.5	3802.5	3802.5	3798.1	3798.1
5°	3762.7	3758.2	3758.2	3753.8	3753.8
7.5°	3731.7	3727.2	3722.8	3718.4	3709.5
10°	3687.4	3687.4	3683.0	3660.8	3656.4
12.5°	3616.6	3612.2	3594.4	3563.5	3554.6
15°	3519.2	3519.2	3483.8	3448.4	3435.1
17.5°	3413.0	3408.5	3364.3	3328.8	3311.1
20°	3297.9	3289.0	3244.7	3187.2	3156.2
22.5°	3169.5	3169.5	3116.4	3041.1	3010.1
25°	3050.0	3032.3	2983.6	2877.3	2797.6
27.5°	2912.7	2886.2	2833.1	2682.6	2589.6
30°	2762.2	2749.0	2673.7	2478.9	2408.1
32.5°	2620.6	2598.4	2518.8	2315.1	2257.6
35°	2474.5	2456.8	2337.3	2160.2	2107.1
37.5°	2328.4	2306.3	2155.8	2014.1	1947.7
40°	2182.3	2155.8	1992.0	1863.6	1792.8
42.5°	2045.1	2009.7	1850.3	1713.1	1633.4
45°	1899.0	1859.2	1699.8	1558.2	1496.2
47.5°	1753.0	1717.5	1571.5	1425.4	1354.6
50°	1598.0	1567.0	1434.2	1288.2	1212.9
52.5°	1469.7	1421.0	1292.6	1146.5	1084.5
55°	1319.1	1279.3	1159.8	1022.6	969.4
57.5°	1181.9	1142.1	1031.4	903.0	858.8
60°	1053.5	996.0	903.0	792.4	757.0
62.5°	911.9	867.6	787.9	695.0	739.3
65°	783.5	739.3	668.4	681.7	566.6
67.5°	641.9	619.7	557.8	495.8	478.1
70°	522.3	495.8	473.7	407.3	389.5
72.5°	416.1	389.5	358.6	323.1	309.9
75°	314.3	292.2	274.5	261.2	287.7
77.5°	216.9	208.1	194.8	181.5	177.1
80°	141.7	137.2	132.8	128.4	123.9
82.5°	84.1	84.1	84.1	84.1	84.1
85°	44.3	48.7	53.1	57.5	62.0
87.5°	26.6	26.6	31.0	35.4	39.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)