

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: P561363

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-82-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561363  
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-12-4-LD4-2HI-35-UNV-82-85-EDD  
Description: 1X4 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**

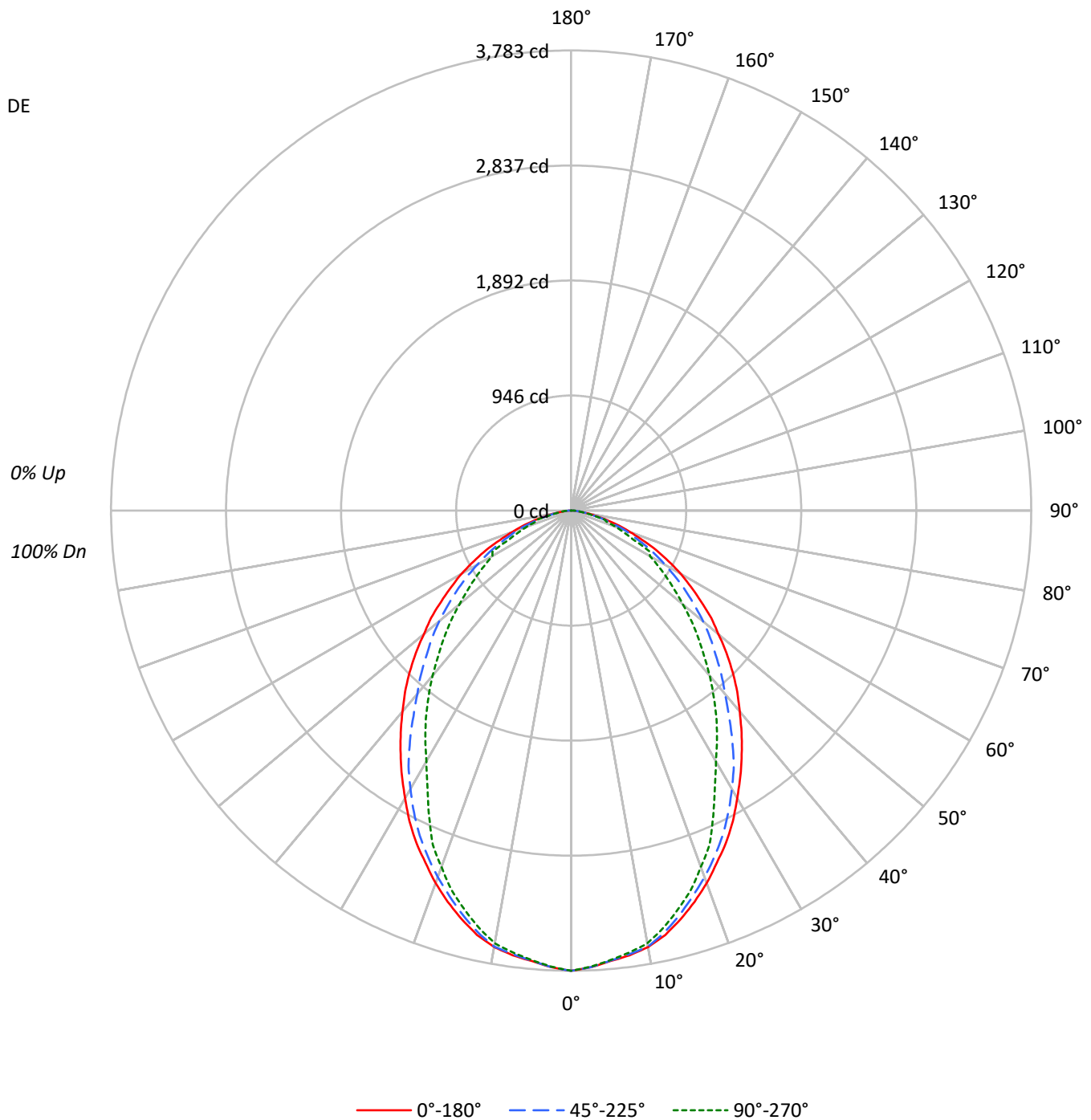
Lumens per Lamp: N/A  
Luminaire Lumens: 7427.0 lumens  
Efficiency: N/A  
Efficacy: 86.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																		
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																												
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°	10181	10181	10181
5°	10042	10030	10019
10°	9955	9943	9871
15°	9687	9589	9455
20°	9331	9181	8930
25°	8948	8753	8207
30°	8480	8208	7393
35°	8032	7586	6839
40°	7574	6914	6222
45°	7140	6392	5626
50°	6610	5933	5017
55°	6115	5376	4494
60°	5602	4802	4025
65°	4929	4205	3564
70°	4061	3682	3028
75°	3228	2820	2956
80°	2170	2033	1898
85°	1349	1621	1890

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7140 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	352.2	4.7
10°-20°	966.5	13.0
20°-30°	1338.0	18.0
30°-40°	1426.7	19.2
40°-50°	1301.6	17.5
50°-60°	1019.7	13.7
60°-70°	664.6	8.9
70°-80°	294.4	4.0
80°-90°	63.2	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°	2656.7	35.8
0°-40°	4083.4	55.0
0°-60°	6404.7	86.2
0°-90°	7427.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7427.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3783	3783	3783	3783	3783	
5°	3718	3713	3713	3709	3709	353
15°	3477	3477	3442	3407	3394	978
25°	3014	2996	2948	2843	2764	1383
35°	2445	2427	2309	2134	2082	1528
45°	1876	1837	1680	1540	1478	1445
55°	1303	1264	1146	1010	958	1169
65°	774	730	660	674	560	763
75°	310	289	271	258	284	333
85°	44	48	52	57	61	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3783.2	3783.2	3783.2	3783.2	3783.2
2.5°	3757.0	3757.0	3757.0	3752.6	3752.6
5°	3717.6	3713.2	3713.2	3708.9	3708.9
7.5°	3687.0	3682.6	3678.2	3673.9	3665.1
10°	3643.3	3643.3	3638.9	3617.0	3612.6
12.5°	3573.3	3568.9	3551.4	3520.8	3512.0
15°	3477.1	3477.1	3442.1	3407.1	3394.0
17.5°	3372.1	3367.7	3324.0	3289.0	3271.5
20°	3258.4	3249.6	3205.9	3149.0	3118.4
22.5°	3131.5	3131.5	3079.1	3004.7	2974.1
25°	3013.5	2996.0	2947.8	2842.9	2764.2
27.5°	2877.9	2851.6	2799.1	2650.4	2558.6
30°	2729.2	2716.0	2641.7	2449.2	2379.3
32.5°	2589.2	2567.3	2488.6	2287.4	2230.6
35°	2444.9	2427.4	2309.3	2134.3	2081.9
37.5°	2300.5	2278.7	2130.0	1990.0	1924.4
40°	2156.2	2130.0	1968.1	1841.3	1771.3
42.5°	2020.6	1985.6	1828.2	1692.6	1613.9
45°	1876.3	1836.9	1679.5	1539.5	1478.3
47.5°	1732.0	1697.0	1552.6	1408.3	1338.3
50°	1578.9	1548.3	1417.1	1272.7	1198.4
52.5°	1452.1	1403.9	1277.1	1132.8	1071.5
55°	1303.4	1264.0	1145.9	1010.3	957.8
57.5°	1167.8	1128.4	1019.1	892.2	848.5
60°	1040.9	984.1	892.2	782.9	747.9
62.5°	901.0	857.2	778.5	686.7	730.4
65°	774.1	730.4	660.4	673.5	559.8
67.5°	634.2	612.3	551.1	489.8	472.4
70°	516.1	489.8	468.0	402.4	384.9
72.5°	411.1	384.9	354.3	319.3	306.2
75°	310.5	288.7	271.2	258.0	284.3
77.5°	214.3	205.6	192.4	179.3	174.9
80°	140.0	135.6	131.2	126.8	122.5
82.5°	83.1	83.1	83.1	83.1	83.1
85°	43.7	48.1	52.5	56.9	61.2
87.5°	26.2	26.2	30.6	35.0	39.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)