

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: P562585

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-82-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562585  
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-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

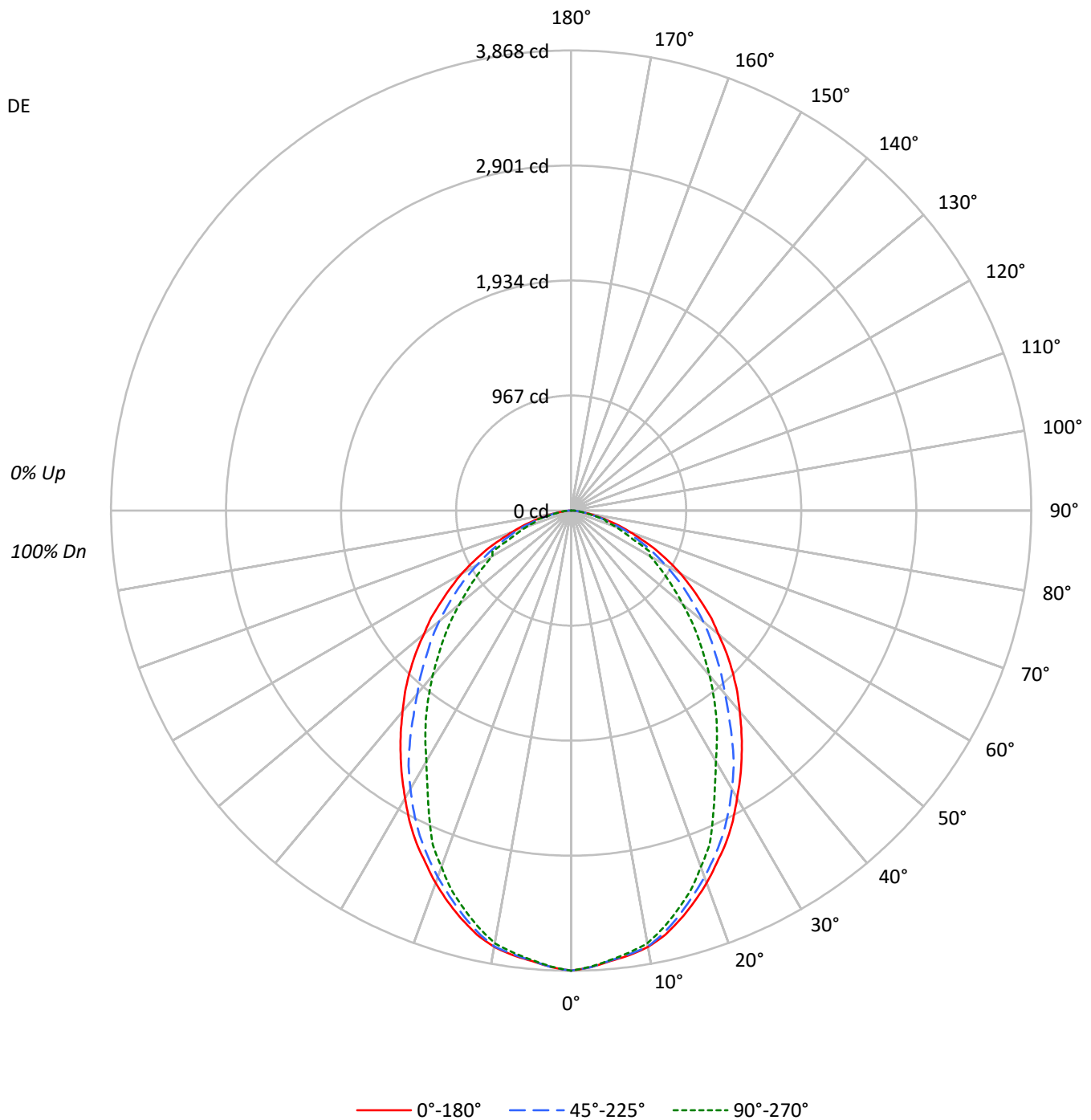
Lumens per Lamp: N/A  
Luminaire Lumens: 7593.0 lumens  
Efficiency: N/A  
Efficacy: 87.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																		
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°	5204	5204	5204
5°	5133	5127	5121
10°	5089	5083	5046
15°	4952	4902	4833
20°	4770	4693	4565
25°	4574	4474	4195
30°	4335	4196	3779
35°	4106	3878	3496
40°	3872	3534	3181
45°	3650	3267	2876
50°	3379	3032	2565
55°	3126	2748	2297
60°	2864	2455	2058
65°	2520	2150	1822
70°	2076	1882	1548
75°	1651	1441	1511
80°	1109	1039	970
85°	690	829	966

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3650 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	360.0	4.7
10°-20°	988.1	13.0
20°-30°	1367.9	18.0
30°-40°	1458.6	19.2
40°-50°	1330.7	17.5
50°-60°	1042.5	13.7
60°-70°	679.4	8.9
70°-80°	301.0	4.0
80°-90°	64.6	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°	2716.1	35.8
0°-40°	4174.7	55.0
0°-60°	6547.9	86.2
0°-90°	7593.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7593.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3868	3868	3868	3868	3868	
5°	3801	3796	3796	3792	3792	361
15°	3555	3555	3519	3483	3470	999
25°	3081	3063	3014	2906	2826	1414
35°	2500	2482	2361	2182	2128	1563
45°	1918	1878	1717	1574	1511	1478
55°	1332	1292	1172	1033	979	1195
65°	791	747	675	689	572	780
75°	318	295	277	264	291	340
85°	45	49	54	58	63	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3867.8	3867.8	3867.8	3867.8	3867.8
2.5°	3840.9	3840.9	3840.9	3836.5	3836.5
5°	3800.7	3796.2	3796.2	3791.8	3791.8
7.5°	3769.4	3764.9	3760.5	3756.0	3747.0
10°	3724.7	3724.7	3720.2	3697.9	3693.4
12.5°	3653.1	3648.7	3630.8	3599.5	3590.5
15°	3554.8	3554.8	3519.0	3483.2	3469.8
17.5°	3447.5	3443.0	3398.3	3362.5	3344.6
20°	3331.2	3322.3	3277.5	3219.4	3188.1
22.5°	3201.5	3201.5	3147.9	3071.9	3040.6
25°	3080.8	3062.9	3013.7	2906.4	2825.9
27.5°	2942.2	2915.4	2861.7	2709.7	2615.8
30°	2790.2	2776.7	2700.7	2504.0	2432.4
32.5°	2647.1	2624.7	2544.2	2338.5	2280.4
35°	2499.5	2481.6	2360.9	2182.0	2128.4
37.5°	2352.0	2329.6	2177.6	2034.5	1967.4
40°	2204.4	2177.6	2012.1	1882.5	1810.9
42.5°	2065.8	2030.0	1869.1	1730.4	1650.0
45°	1918.2	1878.0	1717.0	1573.9	1511.3
47.5°	1770.7	1734.9	1587.4	1439.8	1368.3
50°	1614.2	1582.9	1448.7	1301.2	1225.2
52.5°	1484.5	1435.3	1305.7	1158.1	1095.5
55°	1332.5	1292.2	1171.5	1032.9	979.2
57.5°	1193.9	1153.6	1041.8	912.2	867.5
60°	1064.2	1006.1	912.2	800.4	764.6
62.5°	921.1	876.4	795.9	702.0	746.7
65°	791.4	746.7	675.2	688.6	572.3
67.5°	648.4	626.0	563.4	500.8	482.9
70°	527.6	500.8	478.4	411.4	393.5
72.5°	420.3	393.5	362.2	326.4	313.0
75°	317.5	295.1	277.2	263.8	290.6
77.5°	219.1	210.2	196.7	183.3	178.9
80°	143.1	138.6	134.1	129.7	125.2
82.5°	85.0	85.0	85.0	85.0	85.0
85°	44.7	49.2	53.7	58.1	62.6
87.5°	26.8	26.8	31.3	35.8	40.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)