

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: P563569

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-80-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563569  
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-LD4-3STD-50-UNV-80-84-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

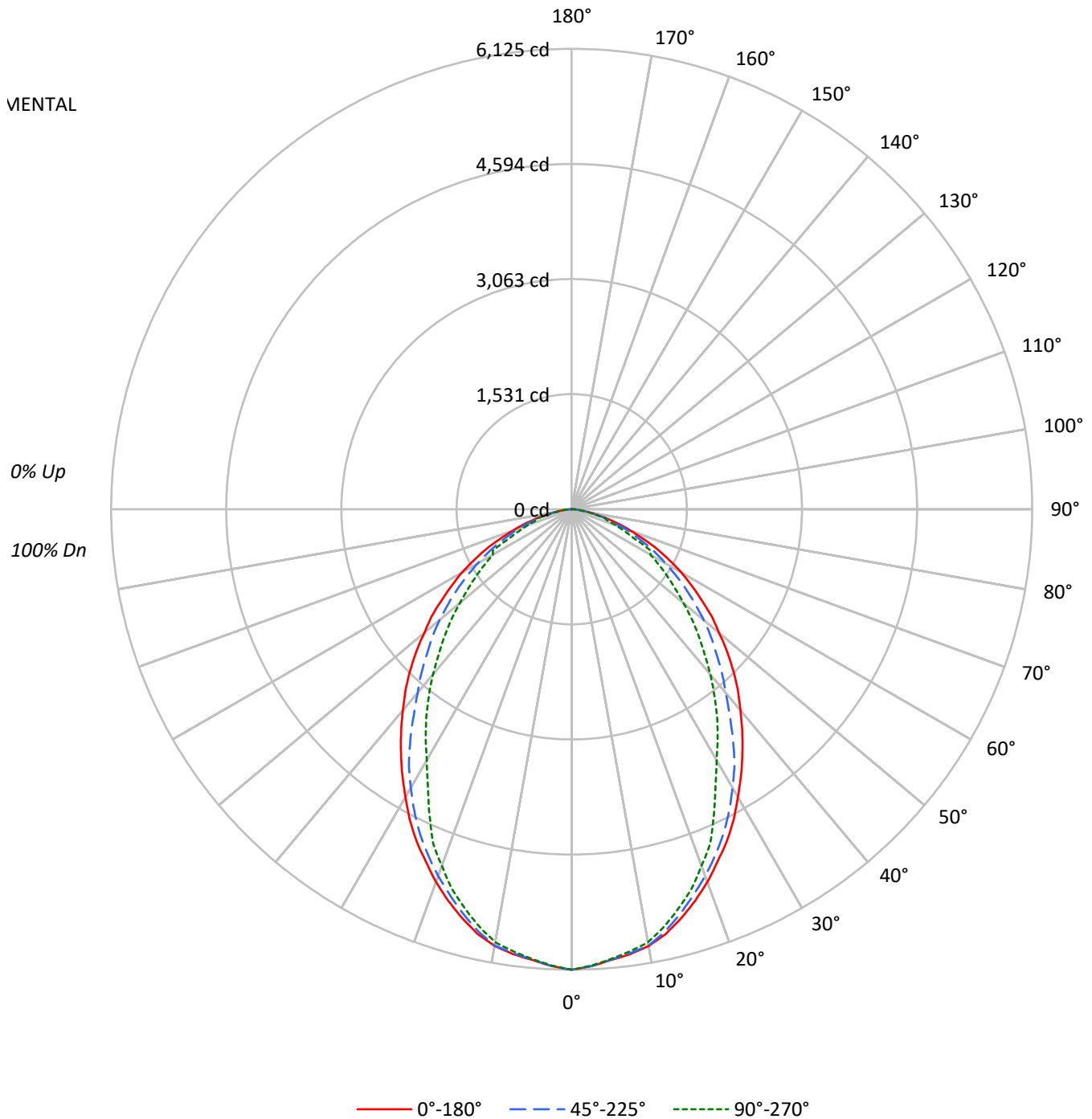
Lumens per Lamp: N/A  
Luminaire Lumens: 12025.0 lumens  
Efficiency: N/A  
Efficacy: 120.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8242	8242	8242
5°	8130	8120	8111
10°	8059	8050	7991
15°	7842	7763	7654
20°	7554	7432	7229
25°	7243	7086	6644
30°	6865	6645	5985
35°	6502	6141	5537
40°	6132	5597	5037
45°	5781	5174	4554
50°	5351	4803	4061
55°	4950	4352	3638
60°	4535	3887	3259
65°	3990	3404	2886
70°	3287	2981	2452
75°	2614	2282	2393
80°	1756	1646	1537
85°	1093	1312	1530

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5781 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	570.2	4.7
10°-20°	1564.8	13.0
20°-30°	2166.4	18.0
30°-40°	2310.0	19.2
40°-50°	2107.4	17.5
50°-60°	1651.0	13.7
60°-70°	1076.0	8.9
70°-80°	476.7	4.0
80°-90°	102.4	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°	4301.4	35.8
0°-40°	6611.5	55.0
0°-60°	10369.9	86.2
0°-90°	12025.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12025.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6125	6125	6125	6125	6125	
5°	6019	6012	6012	6005	6005	571
15°	5630	5630	5573	5516	5495	1583
25°	4879	4851	4773	4603	4475	2240
35°	3958	3930	3739	3456	3371	2475
45°	3038	2974	2719	2493	2394	2340
55°	2110	2046	1855	1636	1551	1893
65°	1253	1183	1069	1090	906	1235
75°	503	467	439	418	460	539
85°	71	78	85	92	99	98
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6125.4	6125.4	6125.4	6125.4	6125.4
2.5°	6082.9	6082.9	6082.9	6075.8	6075.8
5°	6019.2	6012.1	6012.1	6005.0	6005.0
7.5°	5969.6	5962.5	5955.4	5948.3	5934.2
10°	5898.8	5898.8	5891.7	5856.3	5849.2
12.5°	5785.5	5778.4	5750.1	5700.5	5686.3
15°	5629.7	5629.7	5573.0	5516.4	5495.1
17.5°	5459.7	5452.6	5381.8	5325.2	5296.9
20°	5275.6	5261.4	5190.6	5098.6	5049.0
22.5°	5070.3	5070.3	4985.3	4864.9	4815.3
25°	4879.1	4850.7	4772.8	4602.9	4475.4
27.5°	4659.5	4617.0	4532.1	4291.3	4142.6
30°	4418.8	4397.5	4277.1	3965.6	3852.3
32.5°	4192.2	4156.8	4029.3	3703.6	3611.5
35°	3958.5	3930.2	3739.0	3455.7	3370.7
37.5°	3724.8	3689.4	3448.6	3222.0	3115.8
40°	3491.1	3448.6	3186.6	2981.3	2867.9
42.5°	3271.6	3214.9	2960.0	2740.5	2613.0
45°	3037.9	2974.2	2719.2	2492.6	2393.5
47.5°	2804.2	2747.6	2513.9	2280.2	2166.9
50°	2556.4	2506.8	2294.4	2060.7	1940.3
52.5°	2351.0	2273.1	2067.8	1834.1	1734.9
55°	2110.2	2046.5	1855.3	1635.8	1550.8
57.5°	1890.7	1827.0	1650.0	1444.6	1373.8
60°	1685.4	1593.3	1444.6	1267.6	1210.9
62.5°	1458.8	1387.9	1260.5	1111.8	1182.6
65°	1253.4	1182.6	1069.3	1090.5	906.4
67.5°	1026.8	991.4	892.3	793.1	764.8
70°	835.6	793.1	757.7	651.5	623.2
72.5°	665.6	623.2	573.6	516.9	495.7
75°	502.8	467.4	439.0	417.8	460.3
77.5°	347.0	332.8	311.6	290.3	283.3
80°	226.6	219.5	212.4	205.4	198.3
82.5°	134.5	134.5	134.5	134.5	134.5
85°	70.8	77.9	85.0	92.1	99.1
87.5°	42.5	42.5	49.6	56.7	63.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)