

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: P564092

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564092  
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-LD4-4STD-40-UNV-80-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

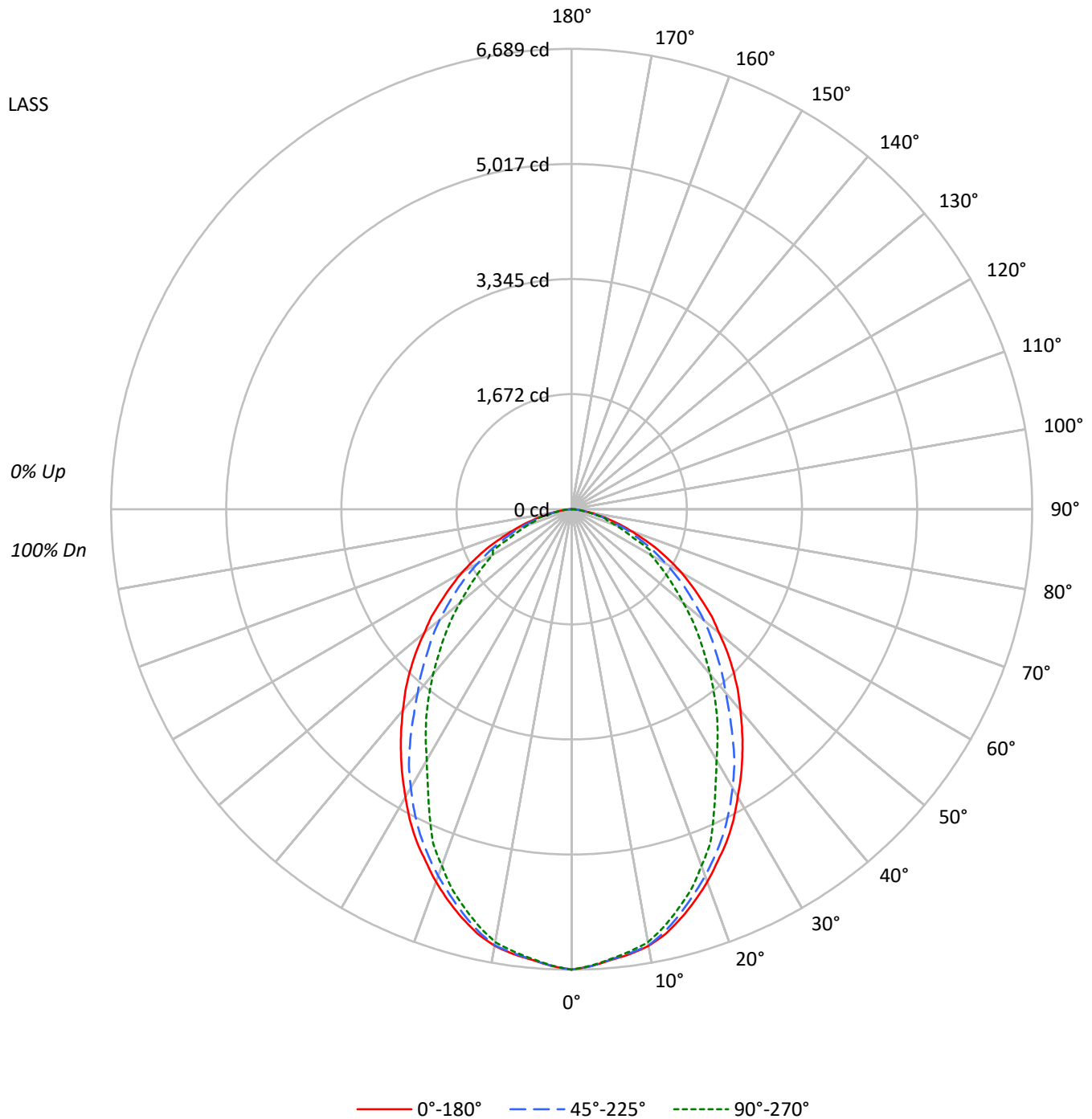
Lumens per Lamp: N/A  
Luminaire Lumens: 13131.0 lumens  
Efficiency: N/A  
Efficacy: 98.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	9000	9000	9000
5°	8877	8867	8856
10°	8800	8790	8726
15°	8563	8477	8358
20°	8249	8116	7894
25°	7910	7737	7255
30°	7497	7256	6536
35°	7100	6706	6046
40°	6696	6112	5501
45°	6312	5650	4973
50°	5843	5244	4435
55°	5405	4753	3973
60°	4952	4245	3558
65°	4358	3717	3151
70°	3590	3255	2677
75°	2854	2492	2613
80°	1917	1798	1678
85°	1193	1433	1672

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6312 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	622.6	4.7
10°-20°	1708.8	13.0
20°-30°	2365.7	18.0
30°-40°	2522.5	19.2
40°-50°	2301.2	17.5
50°-60°	1802.8	13.7
60°-70°	1175.0	8.9
70°-80°	520.6	4.0
80°-90°	111.8	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°	4697.1	35.8
0°-40°	7219.6	55.0
0°-60°	11323.6	86.2
0°-90°	13131.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13131.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6689	6689	6689	6689	6689	
5°	6573	6565	6565	6557	6557	624
15°	6148	6148	6086	6024	6000	1728
25°	5328	5297	5212	5026	4887	2446
35°	4323	4292	4083	3774	3681	2702
45°	3317	3248	2969	2722	2614	2555
55°	2304	2235	2026	1786	1694	2067
65°	1369	1291	1168	1191	990	1349
75°	549	510	479	456	503	588
85°	77	85	93	100	108	107
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6688.8	6688.8	6688.8	6688.8	6688.8
2.5°	6642.4	6642.4	6642.4	6634.6	6634.6
5°	6572.8	6565.0	6565.0	6557.3	6557.3
7.5°	6518.6	6510.9	6503.2	6495.4	6480.0
10°	6441.3	6441.3	6433.6	6394.9	6387.2
12.5°	6317.6	6309.9	6278.9	6224.8	6209.3
15°	6147.5	6147.5	6085.6	6023.7	6000.5
17.5°	5961.9	5954.2	5876.8	5815.0	5784.0
20°	5760.8	5745.4	5668.0	5567.5	5513.4
22.5°	5536.6	5536.6	5443.8	5312.3	5258.2
25°	5327.8	5296.9	5211.8	5026.2	4887.0
27.5°	5088.1	5041.7	4948.9	4686.0	4523.6
30°	4825.2	4802.0	4670.5	4330.3	4206.6
32.5°	4577.7	4539.1	4399.9	4044.2	3943.7
35°	4322.6	4291.6	4082.8	3773.5	3680.7
37.5°	4067.4	4028.7	3765.8	3518.4	3402.4
40°	3812.2	3765.8	3479.7	3255.5	3131.7
42.5°	3572.5	3510.6	3232.3	2992.5	2853.4
45°	3317.3	3247.7	2969.3	2721.9	2613.6
47.5°	3062.1	3000.3	2745.1	2489.9	2366.2
50°	2791.5	2737.4	2505.4	2250.2	2118.8
52.5°	2567.2	2482.2	2257.9	2002.8	1894.5
55°	2304.3	2234.7	2026.0	1786.2	1693.5
57.5°	2064.6	1995.0	1801.7	1577.5	1500.1
60°	1840.4	1739.8	1577.5	1384.1	1322.3
62.5°	1592.9	1515.6	1376.4	1214.0	1291.4
65°	1368.7	1291.4	1167.6	1190.8	989.8
67.5°	1121.2	1082.6	974.3	866.1	835.1
70°	912.5	866.1	827.4	711.4	680.5
72.5°	726.9	680.5	626.3	564.5	541.3
75°	549.0	510.4	479.4	456.2	502.6
77.5°	378.9	363.4	340.2	317.0	309.3
80°	247.4	239.7	232.0	224.2	216.5
82.5°	146.9	146.9	146.9	146.9	146.9
85°	77.3	85.1	92.8	100.5	108.3
87.5°	46.4	46.4	54.1	61.9	69.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)