

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: P563760

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563760  
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-LD4-4HI-50-UNV-80-84-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

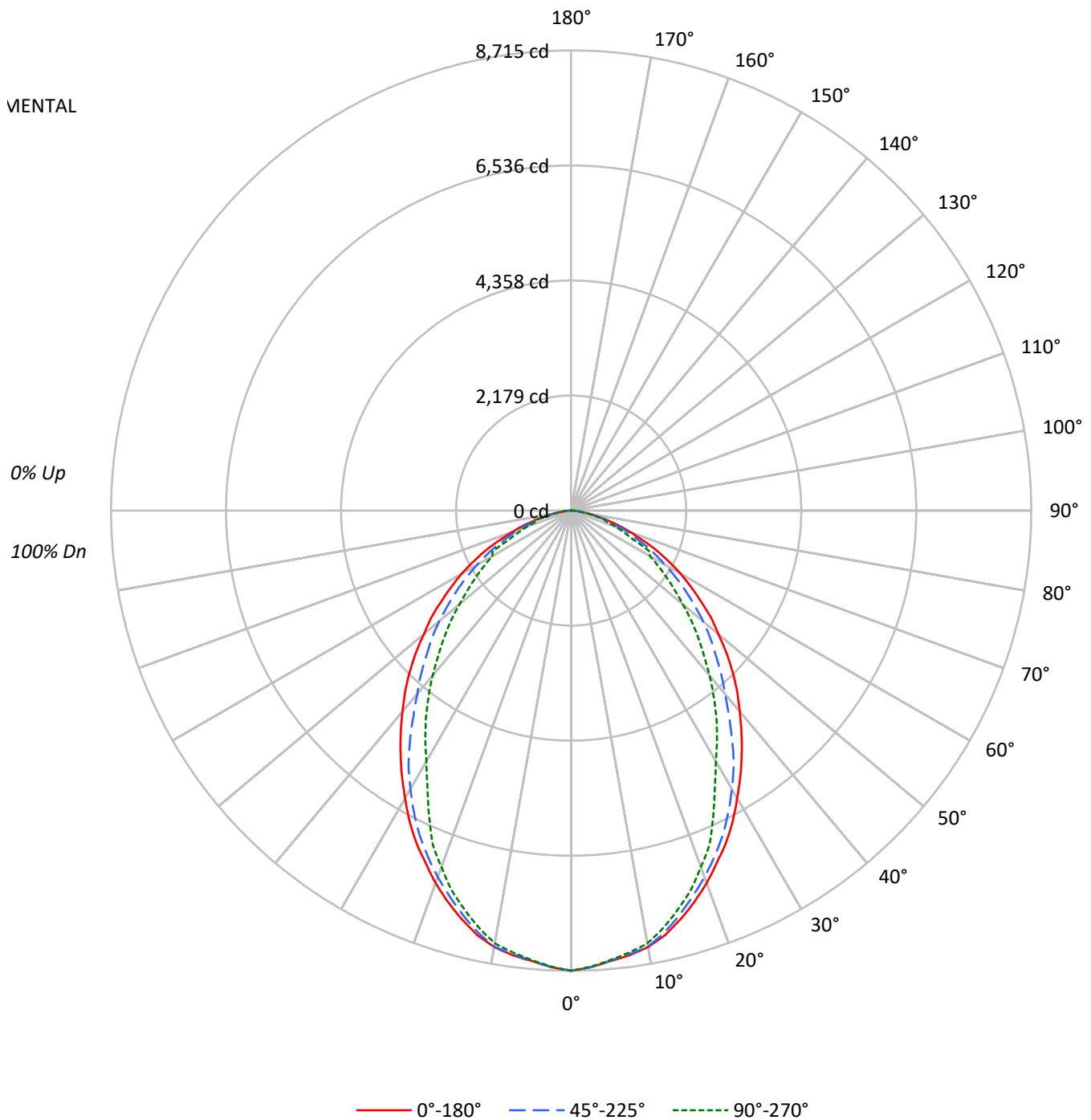
Lumens per Lamp: N/A  
Luminaire Lumens: 17109.0 lumens  
Efficiency: N/A  
Efficacy: 99.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	11726	11726	11726
5°	11567	11553	11540
10°	11466	11453	11370
15°	11157	11045	10891
20°	10748	10574	10286
25°	10306	10081	9453
30°	9768	9455	8515
35°	9251	8738	7877
40°	8724	7963	7167
45°	8225	7362	6480
50°	7613	6833	5779
55°	7043	6192	5176
60°	6453	5531	4636
65°	5677	4844	4106
70°	4677	4241	3488
75°	3719	3248	3405
80°	2498	2342	2186
85°	1556	1866	2178

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8225 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	811.3	4.7
10°-20°	2226.4	13.0
20°-30°	3082.3	18.0
30°-40°	3286.7	19.2
40°-50°	2998.4	17.5
50°-60°	2349.0	13.7
60°-70°	1531.0	8.9
70°-80°	678.3	4.0
80°-90°	145.6	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°	6120.0	35.8
0°-40°	9406.7	55.0
0°-60°	14754.1	86.2
0°-90°	17109.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17109.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8715	8715	8715	8715	8715	
5°	8564	8554	8554	8544	8544	813
15°	8010	8010	7929	7849	7818	2252
25°	6942	6902	6791	6549	6368	3187
35°	5632	5592	5320	4917	4796	3521
45°	4322	4232	3869	3546	3405	3329
55°	3002	2912	2640	2327	2206	2693
65°	1783	1683	1521	1552	1290	1757
75°	715	665	625	594	655	767
85°	101	111	121	131	141	140
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8715.1	8715.1	8715.1	8715.1	8715.1
2.5°	8654.6	8654.6	8654.6	8644.6	8644.6
5°	8564.0	8553.9	8553.9	8543.8	8543.8
7.5°	8493.4	8483.4	8473.3	8463.2	8443.1
10°	8392.7	8392.7	8382.6	8332.2	8322.2
12.5°	8231.5	8221.4	8181.1	8110.6	8090.4
15°	8009.8	8009.8	7929.2	7848.6	7818.4
17.5°	7768.0	7757.9	7657.2	7576.6	7536.3
20°	7506.1	7485.9	7385.2	7254.2	7183.7
22.5°	7213.9	7213.9	7093.0	6921.7	6851.2
25°	6941.9	6901.6	6790.7	6548.9	6367.6
27.5°	6629.5	6569.1	6448.2	6105.6	5894.0
30°	6287.0	6256.7	6085.5	5642.1	5480.9
32.5°	5964.6	5914.2	5732.8	5269.4	5138.4
35°	5632.1	5591.8	5319.7	4916.7	4795.8
37.5°	5299.6	5249.2	4906.6	4584.2	4433.1
40°	4967.1	4906.6	4533.9	4241.7	4080.5
42.5°	4654.8	4574.2	4211.5	3899.1	3717.8
45°	4322.3	4231.6	3868.9	3546.5	3405.4
47.5°	3989.8	3909.2	3576.7	3244.2	3083.0
50°	3637.2	3566.6	3264.4	2931.9	2760.6
52.5°	3345.0	3234.2	2942.0	2609.5	2468.4
55°	3002.4	2911.7	2639.7	2327.4	2206.5
57.5°	2690.1	2599.4	2347.5	2055.4	1954.6
60°	2397.9	2266.9	2055.4	1803.5	1722.9
62.5°	2075.5	1974.8	1793.4	1581.8	1682.6
65°	1783.3	1682.6	1521.4	1551.6	1289.6
67.5°	1460.9	1410.5	1269.5	1128.4	1088.1
70°	1188.9	1128.4	1078.1	926.9	886.6
72.5°	947.1	886.6	816.1	735.5	705.3
75°	715.3	665.0	624.7	594.4	654.9
77.5°	493.7	473.5	443.3	413.1	403.0
80°	322.4	312.3	302.3	292.2	282.1
82.5°	191.4	191.4	191.4	191.4	191.4
85°	100.8	110.8	120.9	131.0	141.1
87.5°	60.5	60.5	70.5	80.6	90.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)