

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: P589911

Luminaire Tested: FSR-24-2-LD4-1HI-50-UNV-80-86-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589911  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-1HI-50-UNV-80-86-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

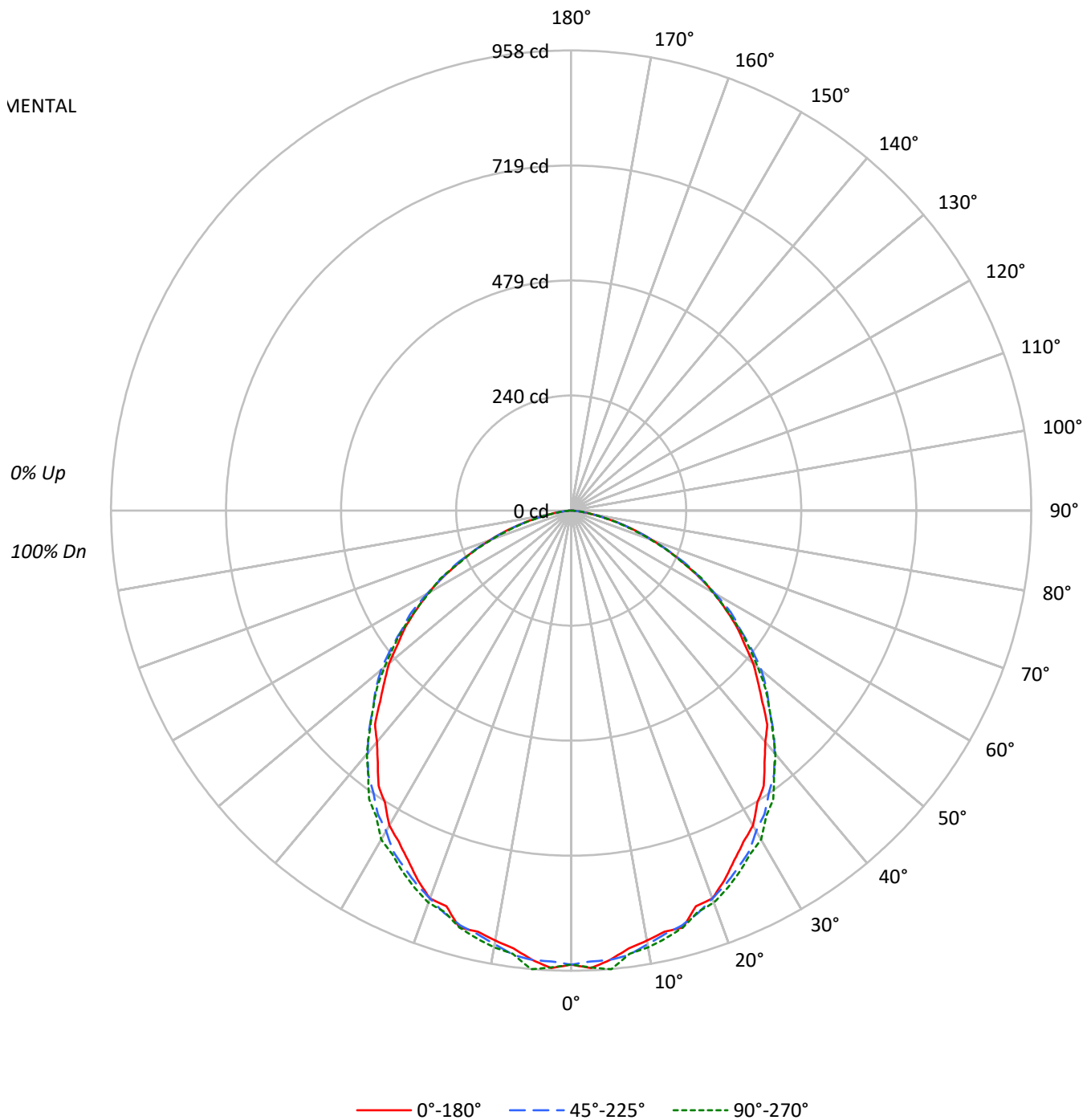
Lumens per Lamp: N/A  
Luminaire Lumens: 2382.0 lumens  
Efficiency: N/A  
Efficacy: 110.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88					86				
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75					73				
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64					62				
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55					53				
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48					46				
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43					41				
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38					36				
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34					32				
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31					29				
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28					26				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2543	2543	2543
5°	2535	2536	2589
10°	2484	2505	2523
15°	2503	2489	2503
20°	2461	2461	2487
25°	2385	2437	2464
30°	2353	2394	2458
35°	2297	2357	2410
40°	2208	2314	2324
45°	2141	2217	2220
50°	2071	2164	2123
55°	1973	2011	1997
60°	1845	1863	1830
65°	1645	1687	1633
70°	1412	1416	1377
75°	1118	1116	1072
80°	748	728	700
85°	408	404	377

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2274 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	88.9	3.7
10°-20°	252.0	10.6
20°-30°	377.5	15.8
30°-40°	447.4	18.8
40°-50°	448.2	18.8
50°-60°	380.5	16.0
60°-70°	256.5	10.8
70°-80°	112.7	4.7
80°-90°	18.3	0.8
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°	718.3	30.2
0°-40°	1165.7	48.9
0°-60°	1994.4	83.7
0°-90°	2382.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2382.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	945	945	945	945	945	
5°	938	936	939	936	958	88
15°	898	888	894	898	899	250
25°	803	808	821	832	830	371
35°	699	701	718	734	734	434
45°	563	573	583	598	583	435
55°	420	418	429	426	426	374
65°	258	255	265	255	256	257
75°	108	105	107	100	103	115
85°	13	13	13	13	12	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	945.1	945.1	945.1	945.1	945.1
2.5°	953.3	946.1	939.4	947.2	952.0
5°	938.4	936.2	938.8	936.0	958.5
7.5°	919.1	927.5	932.4	929.4	930.7
10°	908.9	905.9	916.8	924.4	923.3
12.5°	897.9	902.3	902.9	911.1	911.8
15°	898.5	888.1	893.6	898.3	898.6
17.5°	863.6	874.8	878.6	889.2	876.0
20°	859.3	851.2	859.3	870.2	868.5
22.5°	833.1	823.9	841.5	851.2	850.5
25°	803.3	807.7	820.9	831.6	829.9
27.5°	777.2	782.3	801.1	815.9	806.4
30°	757.1	754.5	770.4	783.6	790.9
32.5°	721.1	730.3	748.9	762.0	755.0
35°	699.2	701.3	717.5	734.1	733.6
37.5°	661.0	670.7	693.5	698.1	693.9
40°	628.5	638.1	658.7	663.7	661.6
42.5°	604.4	606.1	623.8	629.5	620.4
45°	562.6	573.0	582.6	597.6	583.4
47.5°	526.9	531.8	552.3	556.3	548.9
50°	494.6	496.3	516.9	511.9	507.0
52.5°	453.9	461.1	472.7	471.8	466.0
55°	420.5	417.7	428.7	425.8	425.6
57.5°	380.4	385.2	394.3	389.6	382.2
60°	342.8	342.9	346.2	341.0	340.0
62.5°	300.9	302.4	303.1	296.7	307.1
65°	258.3	254.9	264.9	254.8	256.5
67.5°	219.2	220.9	219.9	213.6	216.0
70°	179.4	181.6	180.0	172.8	175.0
72.5°	143.0	140.3	142.0	133.0	137.2
75°	107.5	105.3	107.3	99.7	103.1
77.5°	73.2	74.9	73.7	69.7	72.0
80°	48.3	47.0	47.0	44.7	45.2
82.5°	28.2	26.8	26.5	25.7	26.8
85°	13.2	12.8	13.1	12.7	12.2
87.5°	4.8	4.9	4.9	4.6	4.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)