

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: P589880

Luminaire Tested: FSR-24-2-LD4-1HI-40-UNV-80-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589880  
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-40-UNV-80-87-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

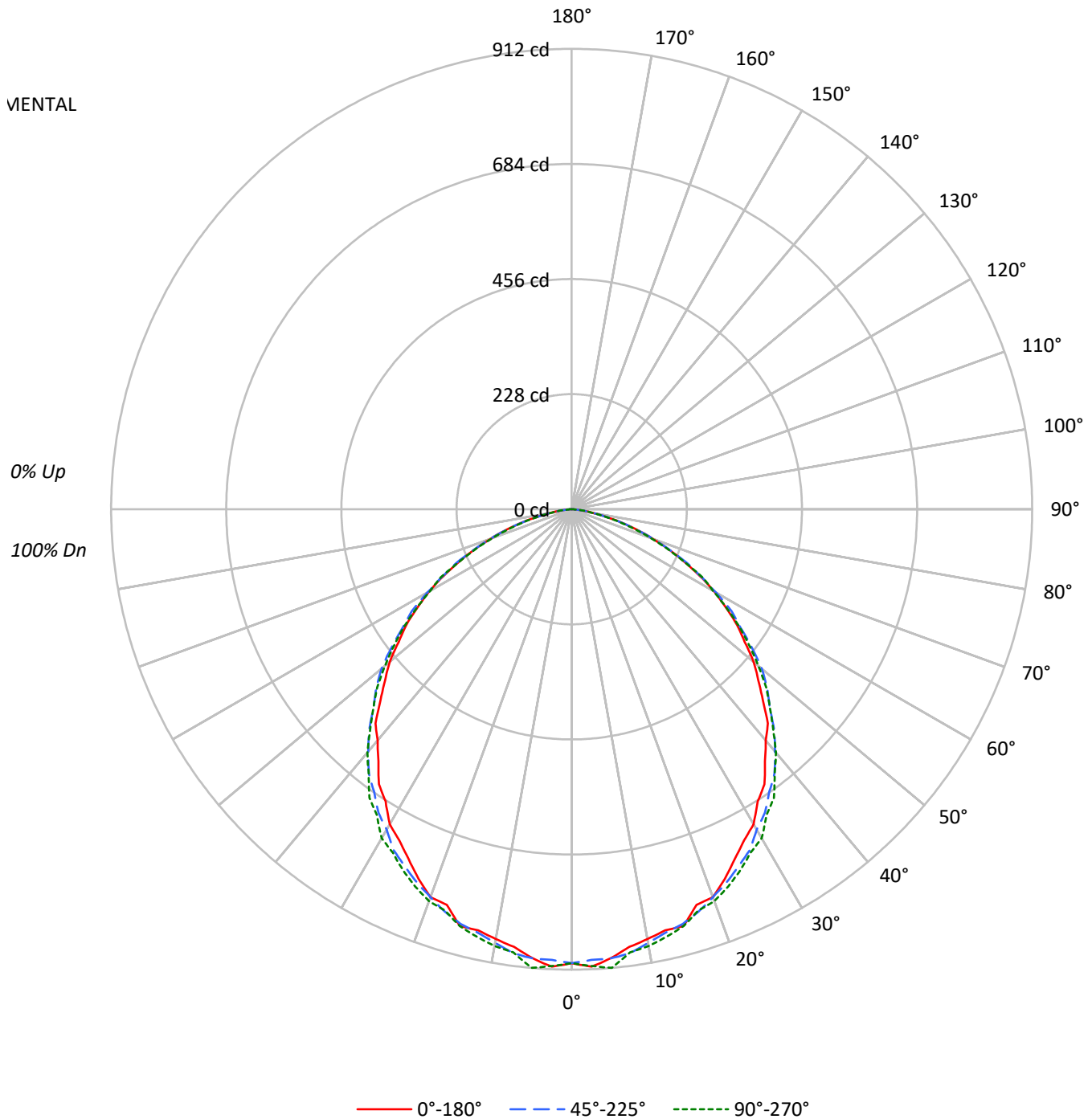
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2266.0 lumens  
Efficiency: N/A  
Efficacy: 104.9 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°	2419	2419	2419
5°	2411	2412	2463
10°	2363	2383	2400
15°	2381	2368	2382
20°	2341	2341	2366
25°	2269	2319	2344
30°	2238	2277	2338
35°	2185	2242	2293
40°	2100	2201	2211
45°	2037	2109	2112
50°	1970	2058	2019
55°	1877	1913	1900
60°	1755	1772	1741
65°	1565	1605	1554
70°	1342	1347	1310
75°	1064	1061	1020
80°	713	693	666
85°	386	383	358

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2163 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.6	3.7
10°-20°	239.7	10.6
20°-30°	359.1	15.8
30°-40°	425.6	18.8
40°-50°	426.4	18.8
50°-60°	361.9	16.0
60°-70°	244.0	10.8
70°-80°	107.2	4.7
80°-90°	17.4	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°	683.4	30.2
0°-40°	1109.0	48.9
0°-60°	1897.3	83.7
0°-90°	2266.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2266.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	899	899	899	899	899	
5°	893	891	893	890	912	84
15°	855	845	850	854	855	238
25°	764	768	781	791	790	353
35°	665	667	683	698	698	413
45°	535	545	554	568	555	414
55°	400	397	408	405	405	356
65°	246	242	252	242	244	244
75°	102	100	102	95	98	110
85°	12	12	12	12	12	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	899.1	899.1	899.1	899.1	899.1
2.5°	906.9	900.0	893.6	901.1	905.6
5°	892.7	890.6	893.1	890.4	911.9
7.5°	874.4	882.4	887.0	884.1	885.4
10°	864.6	861.8	872.2	879.4	878.3
12.5°	854.2	858.3	858.9	866.7	867.4
15°	854.7	844.9	850.1	854.5	854.9
17.5°	821.5	832.2	835.8	845.9	833.4
20°	817.5	809.7	817.5	827.8	826.2
22.5°	792.5	783.8	800.5	809.7	809.1
25°	764.2	768.4	780.9	791.1	789.5
27.5°	739.4	744.2	762.1	776.2	767.1
30°	720.2	717.8	732.9	745.4	752.4
32.5°	686.0	694.8	712.4	724.8	718.2
35°	665.2	667.2	682.6	698.4	697.9
37.5°	628.8	638.0	659.7	664.1	660.1
40°	597.8	607.0	626.6	631.4	629.4
42.5°	575.0	576.6	593.4	598.9	590.2
45°	535.2	545.1	554.2	568.5	555.0
47.5°	501.3	505.9	525.4	529.2	522.2
50°	470.5	472.1	491.7	487.0	482.3
52.5°	431.8	438.7	449.7	448.8	443.3
55°	400.0	397.4	407.8	405.0	404.9
57.5°	361.8	366.5	375.1	370.7	363.6
60°	326.1	326.2	329.3	324.3	323.4
62.5°	286.3	287.7	288.4	282.2	292.2
65°	245.8	242.5	252.0	242.4	244.0
67.5°	208.5	210.1	209.2	203.2	205.5
70°	170.6	172.7	171.2	164.4	166.5
72.5°	136.1	133.5	135.1	126.5	130.5
75°	102.3	100.2	102.0	94.8	98.1
77.5°	69.7	71.3	70.1	66.3	68.5
80°	46.0	44.7	44.7	42.5	43.0
82.5°	26.8	25.5	25.2	24.5	25.5
85°	12.5	12.2	12.4	12.1	11.6
87.5°	4.5	4.6	4.6	4.4	4.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)