

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: P589913

Luminaire Tested: FSR-24-2-LD4-1HI-50-UNV-80-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589913  
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-80-88-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

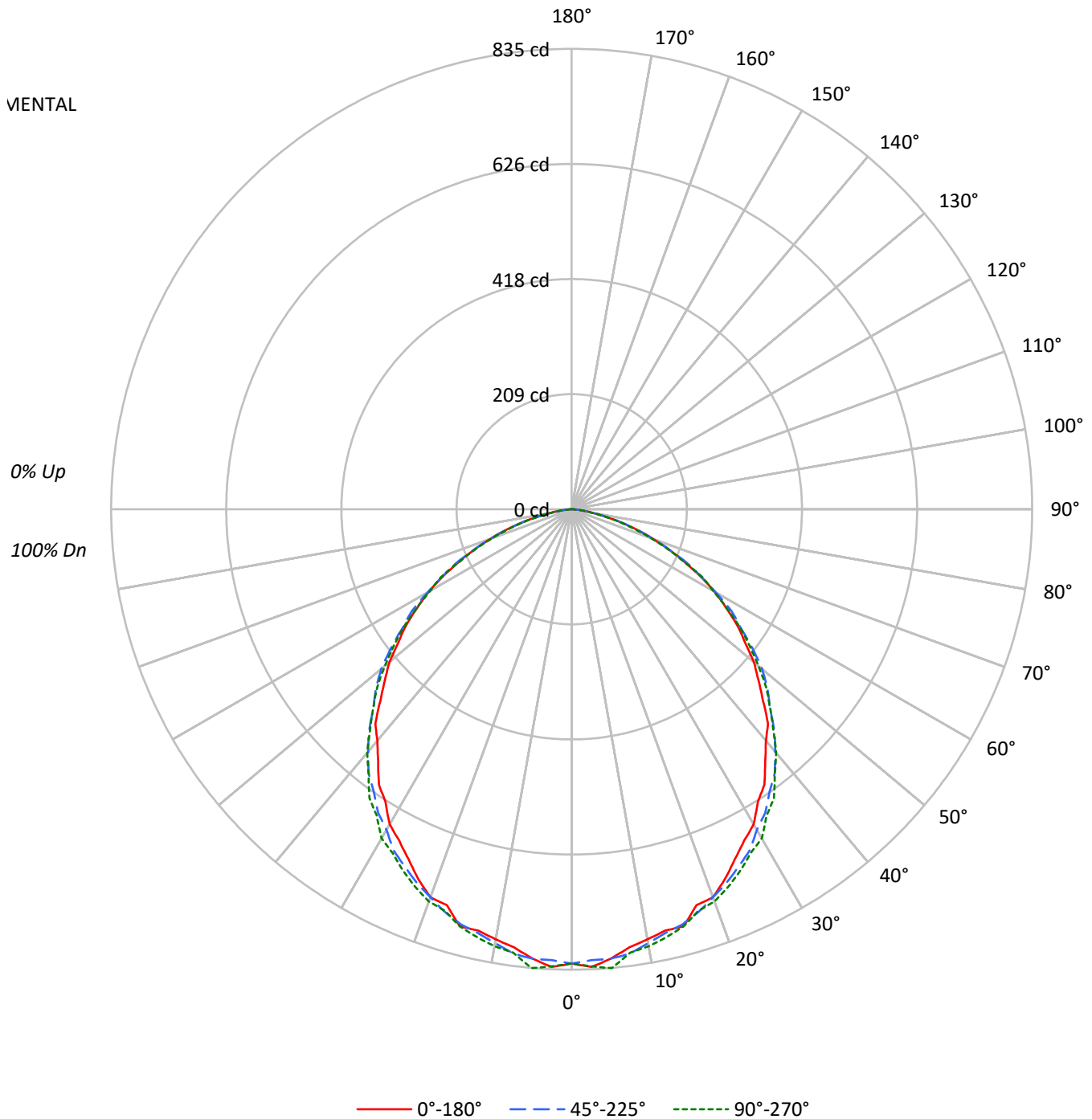
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2076.0 lumens  
Efficiency: N/A  
Efficacy: 96.1 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	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																												
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°	2217	2217	2217
5°	2209	2210	2257
10°	2164	2183	2199
15°	2182	2170	2182
20°	2145	2145	2168
25°	2079	2124	2148
30°	2050	2086	2142
35°	2002	2054	2100
40°	1924	2017	2025
45°	1866	1932	1935
50°	1804	1886	1850
55°	1719	1753	1741
60°	1608	1624	1595
65°	1433	1470	1424
70°	1230	1234	1200
75°	974	972	935
80°	652	634	611
85°	355	352	327

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1982 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.5	3.7
10°-20°	219.6	10.6
20°-30°	329.0	15.8
30°-40°	389.9	18.8
40°-50°	390.7	18.8
50°-60°	331.6	16.0
60°-70°	223.6	10.8
70°-80°	98.2	4.7
80°-90°	16.0	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°	626.1	30.2
0°-40°	1016.0	48.9
0°-60°	1738.2	83.7
0°-90°	2076.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2076.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	824	824	824	824	824	
5°	818	816	818	816	835	77
15°	783	774	779	783	783	218
25°	700	704	715	725	723	324
35°	609	611	625	640	639	378
45°	490	499	508	521	508	379
55°	366	364	374	371	371	326
65°	225	222	231	222	224	224
75°	94	92	94	87	90	100
85°	12	11	11	11	11	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	823.7	823.7	823.7	823.7	823.7
2.5°	830.8	824.6	818.7	825.5	829.7
5°	817.9	815.9	818.2	815.7	835.4
7.5°	801.1	808.4	812.6	810.0	811.2
10°	792.1	789.6	799.0	805.6	804.7
12.5°	782.5	786.4	786.9	794.0	794.7
15°	783.1	774.0	778.8	782.9	783.2
17.5°	752.7	762.4	765.7	775.0	763.5
20°	748.9	741.8	748.9	758.4	756.9
22.5°	726.1	718.1	733.4	741.8	741.3
25°	700.1	704.0	715.4	724.8	723.3
27.5°	677.4	681.8	698.2	711.1	702.8
30°	659.8	657.6	671.4	682.9	689.3
32.5°	628.4	636.5	652.7	664.1	658.0
35°	609.4	611.2	625.4	639.8	639.4
37.5°	576.1	584.5	604.4	608.4	604.7
40°	547.7	556.1	574.1	578.5	576.6
42.5°	526.8	528.3	543.7	548.7	540.7
45°	490.3	499.4	507.7	520.8	508.5
47.5°	459.2	463.5	481.4	484.9	478.4
50°	431.0	432.5	450.5	446.2	441.9
52.5°	395.6	401.9	412.0	411.2	406.2
55°	366.5	364.0	373.6	371.1	371.0
57.5°	331.5	335.8	343.6	339.6	333.1
60°	298.7	298.9	301.7	297.2	296.3
62.5°	262.3	263.5	264.2	258.5	267.7
65°	225.1	222.2	230.9	222.1	223.6
67.5°	191.0	192.5	191.6	186.1	188.2
70°	156.3	158.3	156.9	150.6	152.5
72.5°	124.6	122.3	123.8	115.9	119.5
75°	93.7	91.8	93.5	86.9	89.9
77.5°	63.8	65.3	64.2	60.7	62.7
80°	42.1	40.9	40.9	38.9	39.4
82.5°	24.6	23.4	23.1	22.4	23.4
85°	11.5	11.2	11.4	11.1	10.6
87.5°	4.1	4.3	4.3	4.0	3.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)