

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: P589846

Luminaire Tested: FSR-24-2-LD4-1HI-35-UNV-80-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589846  
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-35-UNV-80-85-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

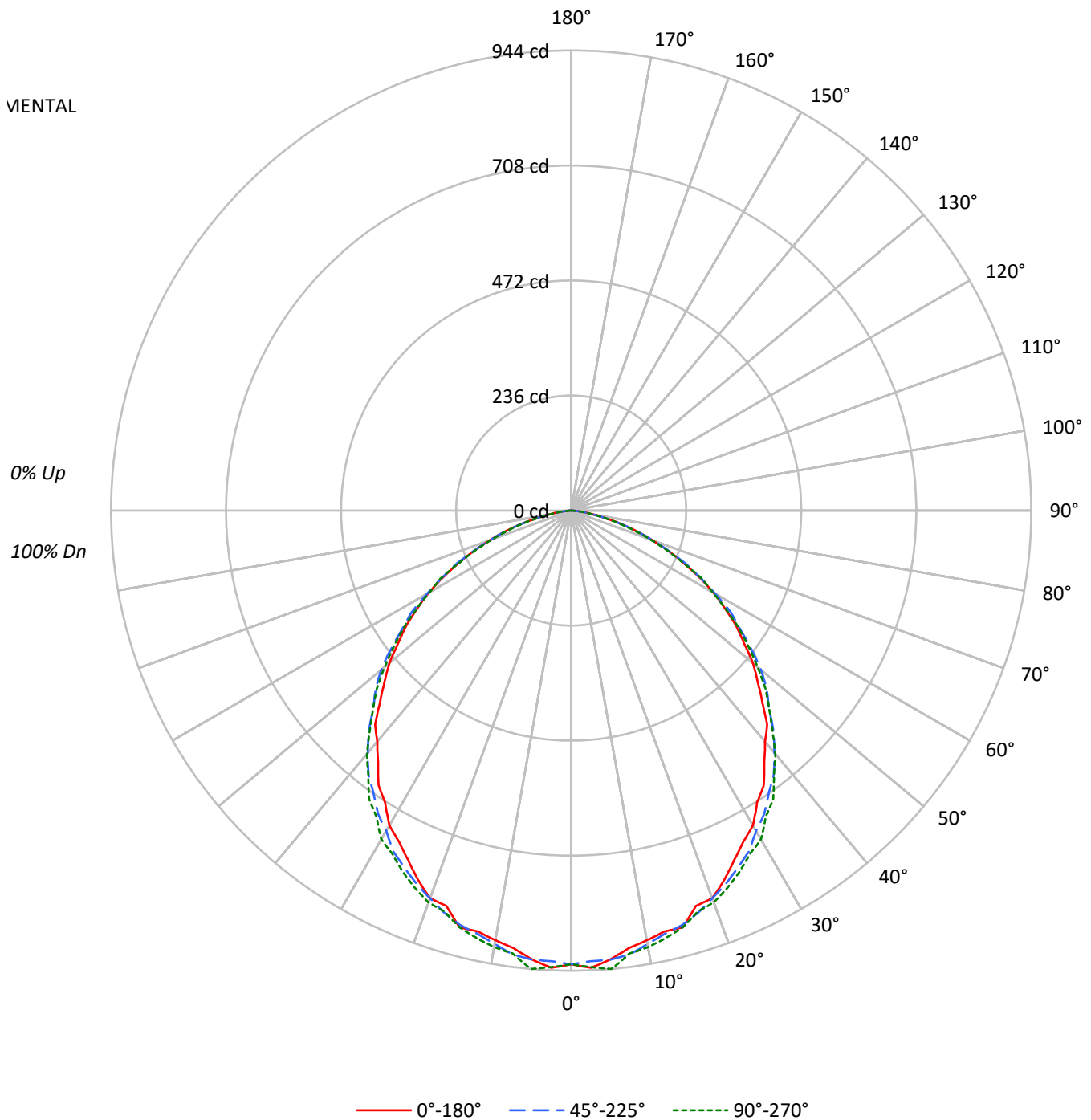
Lumens per Lamp: N/A  
Luminaire Lumens: 2346.0 lumens  
Efficiency: N/A  
Efficacy: 108.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
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					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

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

	0°	45°	90°
0°	2505	2505	2505
5°	2497	2498	2550
10°	2446	2467	2485
15°	2465	2452	2466
20°	2424	2424	2450
25°	2349	2401	2427
30°	2317	2357	2420
35°	2262	2322	2374
40°	2174	2279	2289
45°	2109	2184	2187
50°	2039	2131	2091
55°	1943	1981	1967
60°	1817	1835	1802
65°	1620	1661	1608
70°	1390	1395	1356
75°	1101	1098	1056
80°	738	717	690
85°	401	398	371

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2240 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.6	3.7
10°-20°	248.1	10.6
20°-30°	371.8	15.8
30°-40°	440.6	18.8
40°-50°	441.5	18.8
50°-60°	374.7	16.0
60°-70°	252.6	10.8
70°-80°	111.0	4.7
80°-90°	18.0	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°	707.5	30.2
0°-40°	1148.1	48.9
0°-60°	1964.3	83.7
0°-90°	2346.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2346.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	931	931	931	931	931	
5°	924	922	925	922	944	87
15°	885	875	880	885	885	247
25°	791	796	808	819	817	366
35°	689	691	707	723	723	428
45°	554	564	574	588	575	429
55°	414	411	422	419	419	368
65°	254	251	261	251	253	253
75°	106	104	106	98	102	113
85°	13	13	13	12	12	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	930.8	930.8	930.8	930.8	930.8
2.5°	938.9	931.8	925.2	932.9	937.6
5°	924.2	922.1	924.6	921.8	944.1
7.5°	905.2	913.5	918.3	915.3	916.7
10°	895.1	892.3	903.0	910.4	909.3
12.5°	884.3	888.6	889.2	897.3	898.0
15°	884.9	874.7	880.1	884.7	885.0
17.5°	850.5	861.6	865.3	875.8	862.8
20°	846.3	838.3	846.3	857.0	855.4
22.5°	820.5	811.5	828.8	838.3	837.7
25°	791.2	795.5	808.5	819.1	817.4
27.5°	765.5	770.5	789.0	803.6	794.2
30°	745.6	743.1	758.7	771.7	778.9
32.5°	710.2	719.3	737.6	750.4	743.6
35°	688.7	690.7	706.7	723.0	722.6
37.5°	651.0	660.5	683.0	687.6	683.4
40°	619.0	628.4	648.8	653.7	651.6
42.5°	595.3	597.0	614.4	620.0	611.0
45°	554.1	564.4	573.8	588.5	574.6
47.5°	519.0	523.8	544.0	547.9	540.6
50°	487.1	488.8	509.1	504.2	499.4
52.5°	447.1	454.2	465.6	464.6	459.0
55°	414.2	411.4	422.2	419.3	419.2
57.5°	374.6	379.4	388.3	383.8	376.4
60°	337.6	337.7	341.0	335.8	334.8
62.5°	296.4	297.8	298.5	292.2	302.5
65°	254.4	251.1	260.9	250.9	252.6
67.5°	215.9	217.5	216.6	210.3	212.7
70°	176.7	178.8	177.3	170.2	172.3
72.5°	140.9	138.2	139.9	131.0	135.1
75°	105.9	103.7	105.6	98.2	101.6
77.5°	72.1	73.8	72.6	68.6	70.9
80°	47.6	46.3	46.3	44.0	44.5
82.5°	27.8	26.4	26.1	25.4	26.4
85°	13.0	12.6	12.9	12.5	12.0
87.5°	4.7	4.8	4.8	4.6	4.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)