

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: P589935

Luminaire Tested: FSR-24-2-LD4-1HI-50-UNV-93-86-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589935  
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-93-86-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

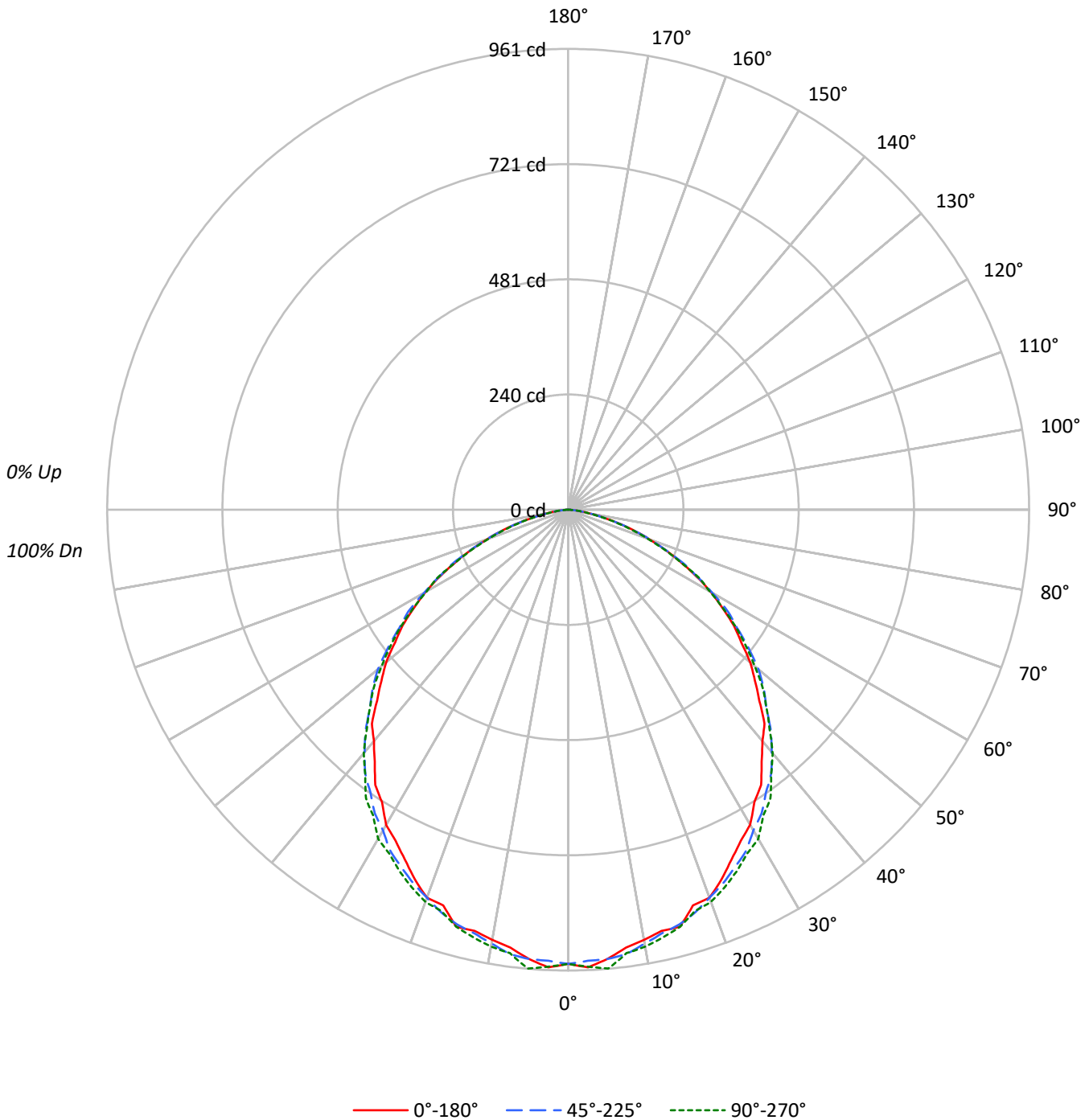
Lumens per Lamp: N/A  
Luminaire Lumens: 2387.0 lumens  
Efficiency: N/A  
Efficacy: 110.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
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°	2549	2549	2549
5°	2540	2541	2595
10°	2489	2510	2528
15°	2508	2495	2509
20°	2466	2466	2492
25°	2390	2442	2469
30°	2357	2399	2463
35°	2302	2362	2415
40°	2212	2319	2329
45°	2145	2222	2225
50°	2075	2169	2127
55°	1977	2016	2001
60°	1849	1867	1834
65°	1649	1691	1636
70°	1415	1419	1380
75°	1120	1118	1074
80°	750	730	700
85°	408	404	377

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2279 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.1	3.7
10°-20°	252.5	10.6
20°-30°	378.3	15.8
30°-40°	448.3	18.8
40°-50°	449.2	18.8
50°-60°	381.3	16.0
60°-70°	257.1	10.8
70°-80°	112.9	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°	719.9	30.2
0°-40°	1168.2	48.9
0°-60°	1998.6	83.7
0°-90°	2387.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2387.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	947	947	947	947	947	
5°	940	938	941	938	961	89
15°	900	890	896	900	900	251
25°	805	809	823	833	832	372
35°	701	703	719	736	735	435
45°	564	574	584	599	585	436
55°	421	419	430	427	426	375
65°	259	256	266	255	257	257
75°	108	106	108	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°	947.1	947.1	947.1	947.1	947.1
2.5°	955.3	948.1	941.4	949.2	953.9
5°	940.4	938.2	940.7	937.9	960.6
7.5°	921.1	929.5	934.4	931.3	932.7
10°	910.8	907.8	918.7	926.3	925.2
12.5°	899.8	904.2	904.8	913.0	913.7
15°	900.4	890.0	895.5	900.1	900.5
17.5°	865.4	876.7	880.5	891.1	877.9
20°	861.1	852.9	861.1	872.0	870.3
22.5°	834.8	825.7	843.3	852.9	852.3
25°	805.0	809.4	822.6	833.4	831.7
27.5°	778.8	784.0	802.8	817.6	808.1
30°	758.7	756.1	772.0	785.2	792.5
32.5°	722.6	731.9	750.5	763.6	756.6
35°	700.7	702.8	719.0	735.7	735.2
37.5°	662.4	672.1	694.9	699.6	695.3
40°	629.8	639.4	660.1	665.1	663.0
42.5°	605.7	607.4	625.1	630.9	621.7
45°	563.7	574.3	583.8	598.8	584.6
47.5°	528.0	532.9	553.5	557.5	550.0
50°	495.6	497.3	518.0	513.0	508.1
52.5°	454.9	462.1	473.7	472.8	467.0
55°	421.4	418.6	429.6	426.7	426.5
57.5°	381.2	386.1	395.1	390.5	383.0
60°	343.5	343.6	346.9	341.7	340.7
62.5°	301.6	303.0	303.8	297.3	307.8
65°	258.9	255.5	265.5	255.3	257.0
67.5°	219.6	221.3	220.4	214.0	216.4
70°	179.8	182.0	180.4	173.2	175.4
72.5°	143.3	140.6	142.3	133.3	137.4
75°	107.7	105.5	107.5	99.9	103.3
77.5°	73.4	75.1	73.9	69.8	72.1
80°	48.4	47.1	47.1	44.8	45.2
82.5°	28.2	26.9	26.5	25.8	26.9
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)