

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: P564063

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-82-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564063  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-4STD-35-UNV-82-97-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

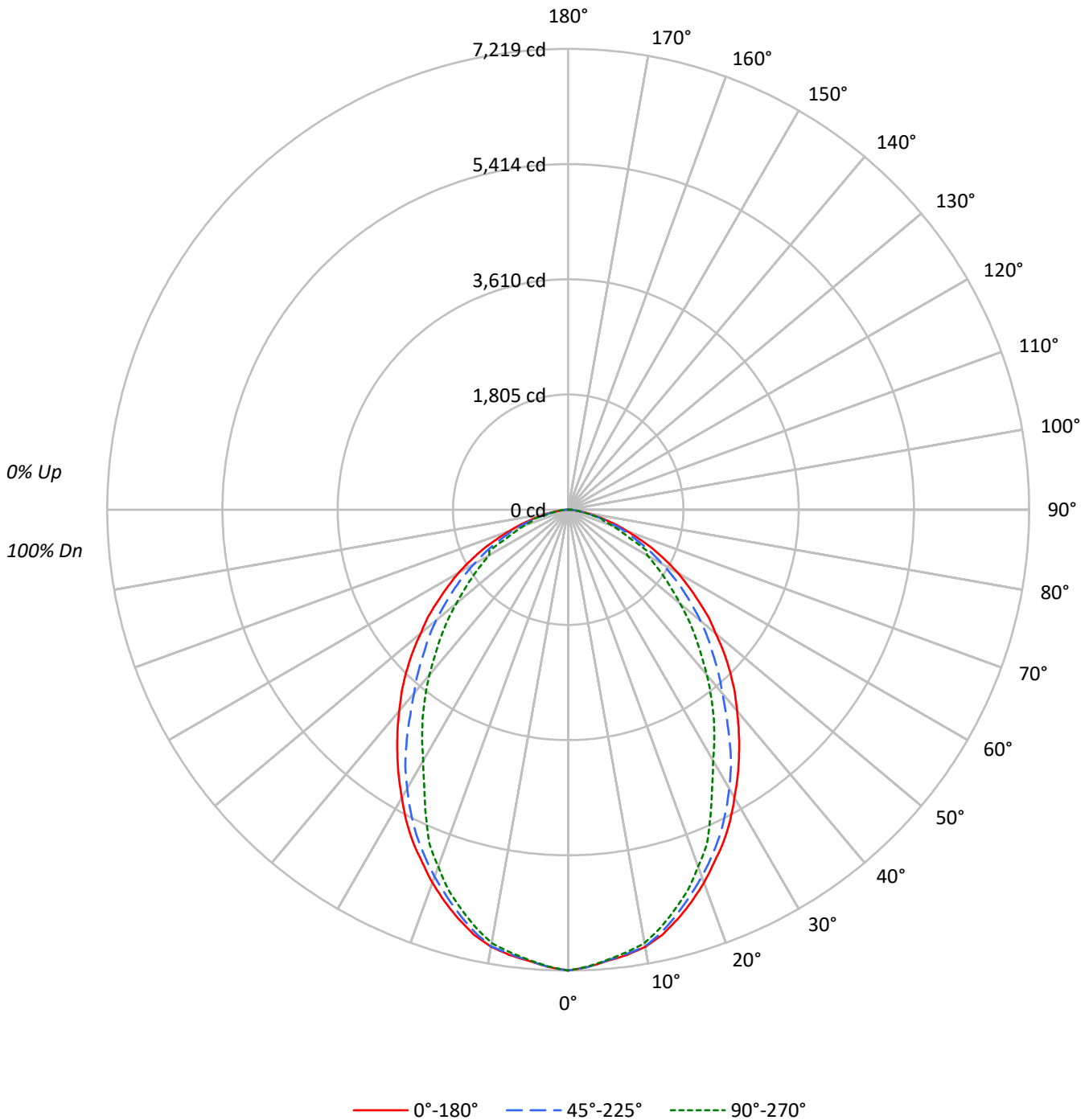
Lumens per Lamp: N/A  
Luminaire Lumens: 14172.0 lumens  
Efficiency: N/A  
Efficacy: 106.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																			100									
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			87									
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			75									
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			65									
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			56									
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			50									
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			44									
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			40									
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			36									
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			33									
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			30									

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

	0°	45°	90°
0°	9713	9713	9713
5°	9581	9570	9559
10°	9498	9487	9418
15°	9242	9149	9021
20°	8902	8759	8520
25°	8537	8351	7830
30°	8091	7832	7054
35°	7663	7238	6525
40°	7227	6596	5937
45°	6813	6098	5367
50°	6306	5660	4787
55°	5834	5129	4287
60°	5345	4581	3840
65°	4703	4012	3401
70°	3874	3513	2889
75°	3080	2690	2820
80°	2070	1940	1811
85°	1289	1545	1803

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6813 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	672.0	4.7
10°-20°	1844.2	13.0
20°-30°	2553.2	18.0
30°-40°	2722.5	19.2
40°-50°	2483.7	17.5
50°-60°	1945.8	13.7
60°-70°	1268.2	8.9
70°-80°	561.8	4.0
80°-90°	120.6	0.9
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°	5069.4	35.8
0°-40°	7791.9	55.0
0°-60°	12221.4	86.2
0°-90°	14172.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14172.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7219	7219	7219	7219	7219	
5°	7094	7086	7086	7077	7077	673
15°	6635	6635	6568	6501	6476	1865
25°	5750	5717	5625	5425	5274	2640
35°	4665	4632	4406	4073	3973	2917
45°	3580	3505	3205	2938	2821	2758
55°	2487	2412	2187	1928	1828	2231
65°	1477	1394	1260	1285	1068	1456
75°	592	551	517	492	542	635
85°	84	92	100	108	117	116
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7219.0	7219.0	7219.0	7219.0	7219.0
2.5°	7169.0	7169.0	7169.0	7160.6	7160.6
5°	7093.8	7085.5	7085.5	7077.2	7077.2
7.5°	7035.4	7027.1	7018.7	7010.4	6993.7
10°	6952.0	6952.0	6943.6	6901.9	6893.5
12.5°	6818.4	6810.1	6776.7	6718.3	6701.6
15°	6634.8	6634.8	6568.1	6501.3	6476.3
17.5°	6434.5	6426.2	6342.7	6276.0	6242.6
20°	6217.5	6200.9	6117.4	6008.9	5950.5
22.5°	5975.5	5975.5	5875.4	5733.5	5675.1
25°	5750.2	5716.8	5625.0	5424.7	5274.5
27.5°	5491.5	5441.4	5341.2	5057.5	4882.2
30°	5207.7	5182.7	5040.8	4673.6	4540.1
32.5°	4940.7	4898.9	4748.7	4364.8	4256.3
35°	4665.2	4631.9	4406.5	4072.7	3972.6
37.5°	4389.8	4348.1	4064.4	3797.3	3672.1
40°	4114.4	4064.4	3755.6	3513.5	3380.0
42.5°	3855.7	3788.9	3488.5	3229.8	3079.6
45°	3580.3	3505.2	3204.7	2937.7	2820.8
47.5°	3304.9	3238.1	2962.7	2687.3	2553.8
50°	3012.8	2954.4	2704.0	2428.6	2286.7
52.5°	2770.8	2679.0	2436.9	2161.5	2044.7
55°	2487.0	2411.9	2186.6	1927.9	1827.7
57.5°	2228.3	2153.2	1944.5	1702.5	1619.1
60°	1986.3	1877.8	1702.5	1493.9	1427.1
62.5°	1719.2	1635.8	1485.5	1310.3	1393.7
65°	1477.2	1393.7	1260.2	1285.2	1068.2
67.5°	1210.1	1168.4	1051.6	934.7	901.3
70°	984.8	934.7	893.0	767.8	734.4
72.5°	784.5	734.4	676.0	609.2	584.2
75°	592.5	550.8	517.4	492.4	542.5
77.5°	408.9	392.2	367.2	342.2	333.8
80°	267.1	258.7	250.4	242.0	233.7
82.5°	158.6	158.6	158.6	158.6	158.6
85°	83.5	91.8	100.1	108.5	116.8
87.5°	50.1	50.1	58.4	66.8	75.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)