

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: P564195

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-93-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564195  
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-50-UNV-93-85-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

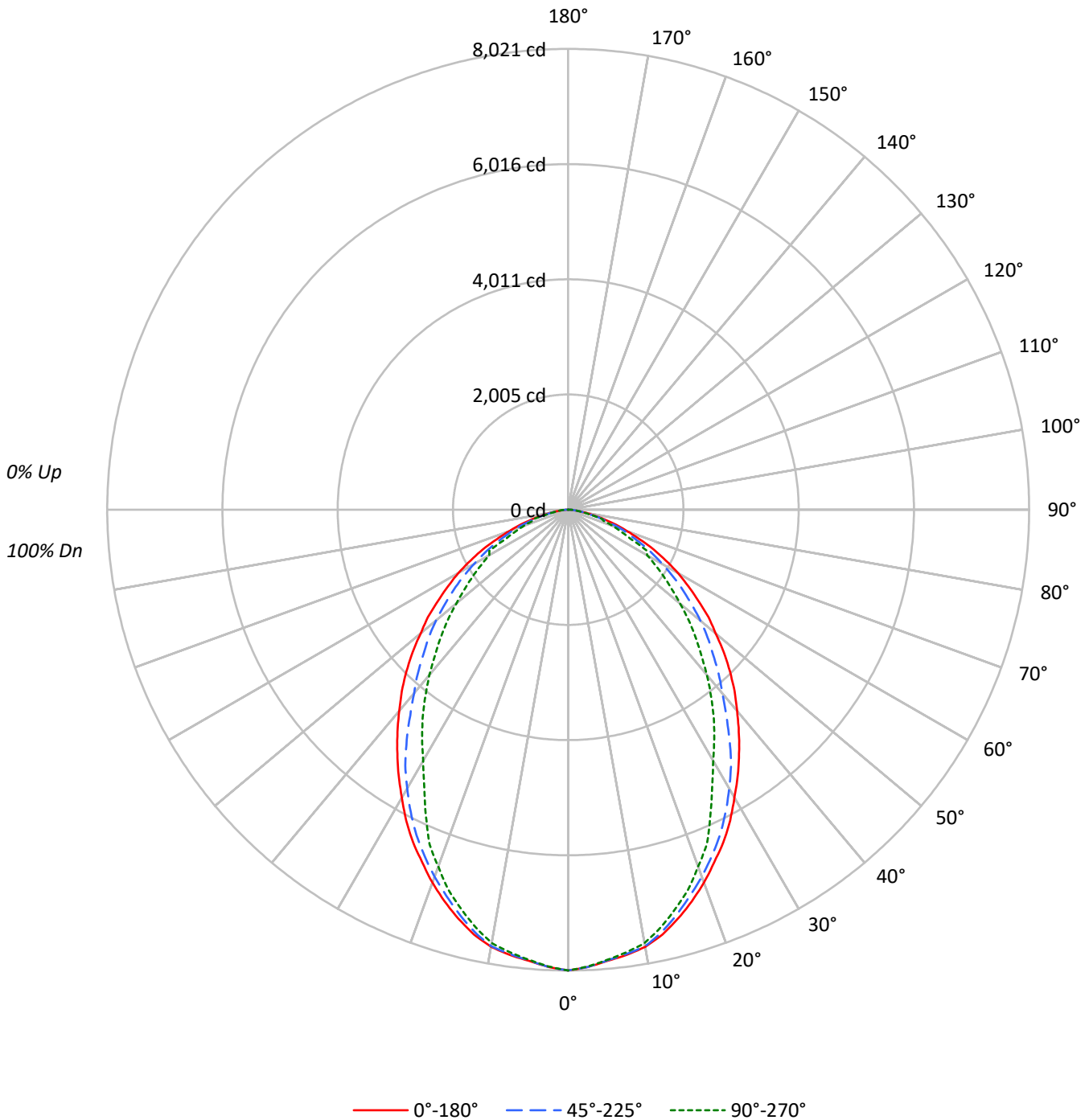
Lumens per Lamp: N/A  
Luminaire Lumens: 15746.0 lumens  
Efficiency: N/A  
Efficacy: 118.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	10792	10792	10792
5°	10645	10633	10620
10°	10553	10540	10464
15°	10268	10165	10023
20°	9891	9732	9466
25°	9485	9278	8700
30°	8990	8701	7837
35°	8514	8042	7250
40°	8029	7329	6596
45°	7569	6775	5964
50°	7007	6289	5318
55°	6482	5699	4764
60°	5939	5090	4267
65°	5225	4458	3779
70°	4305	3903	3210
75°	3423	2989	3133
80°	2299	2156	2011
85°	1431	1718	2004

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7569 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	746.6	4.7
10°-20°	2049.1	13.0
20°-30°	2836.8	18.0
30°-40°	3024.8	19.2
40°-50°	2759.5	17.5
50°-60°	2161.9	13.7
60°-70°	1409.0	8.9
70°-80°	624.3	4.0
80°-90°	134.0	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°	5632.5	35.8
0°-40°	8657.3	55.0
0°-60°	13578.7	86.2
0°-90°	15746.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15746.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8021	8021	8021	8021	8021	
5°	7882	7872	7872	7863	7863	748
15°	7372	7372	7298	7223	7196	2072
25°	6389	6352	6250	6027	5860	2933
35°	5183	5146	4896	4525	4414	3241
45°	3978	3894	3561	3264	3134	3064
55°	2763	2680	2429	2142	2031	2478
65°	1641	1548	1400	1428	1187	1617
75°	658	612	575	547	603	706
85°	93	102	111	120	130	129
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8020.8	8020.8	8020.8	8020.8	8020.8
2.5°	7965.2	7965.2	7965.2	7955.9	7955.9
5°	7881.7	7872.4	7872.4	7863.2	7863.2
7.5°	7816.8	7807.5	7798.3	7789.0	7770.4
10°	7724.1	7724.1	7714.8	7668.4	7659.2
12.5°	7575.7	7566.4	7529.4	7464.4	7445.9
15°	7371.7	7371.7	7297.5	7223.4	7195.5
17.5°	7149.2	7139.9	7047.2	6973.0	6935.9
20°	6908.1	6889.5	6796.8	6676.3	6611.4
22.5°	6639.2	6639.2	6527.9	6370.3	6305.4
25°	6388.8	6351.7	6249.7	6027.2	5860.3
27.5°	6101.4	6045.7	5934.5	5619.2	5424.5
30°	5786.1	5758.3	5600.7	5192.7	5044.3
32.5°	5489.4	5443.0	5276.1	4849.6	4729.0
35°	5183.4	5146.3	4895.9	4525.0	4413.8
37.5°	4877.4	4831.0	4515.8	4219.0	4079.9
40°	4571.4	4515.8	4172.7	3903.8	3755.4
42.5°	4283.9	4209.8	3875.9	3588.5	3421.6
45°	3977.9	3894.5	3560.7	3264.0	3134.1
47.5°	3672.0	3597.8	3291.8	2985.8	2837.4
50°	3347.4	3282.5	3004.3	2698.3	2540.7
52.5°	3078.5	2976.5	2707.6	2401.6	2271.8
55°	2763.2	2679.8	2429.4	2142.0	2030.7
57.5°	2475.8	2392.3	2160.5	1891.6	1798.9
60°	2206.9	2086.3	1891.6	1659.8	1585.6
62.5°	1910.2	1817.4	1650.5	1455.8	1548.5
65°	1641.3	1548.5	1400.2	1428.0	1186.9
67.5°	1344.5	1298.2	1168.3	1038.5	1001.4
70°	1094.2	1038.5	992.2	853.1	816.0
72.5°	871.6	816.0	751.1	676.9	649.1
75°	658.4	612.0	574.9	547.1	602.7
77.5°	454.4	435.8	408.0	380.2	370.9
80°	296.7	287.5	278.2	268.9	259.6
82.5°	176.2	176.2	176.2	176.2	176.2
85°	92.7	102.0	111.3	120.5	129.8
87.5°	55.6	55.6	64.9	74.2	83.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)