

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: P563795

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-82-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563795  
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-LD4-4HI-50-UNV-82-85-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

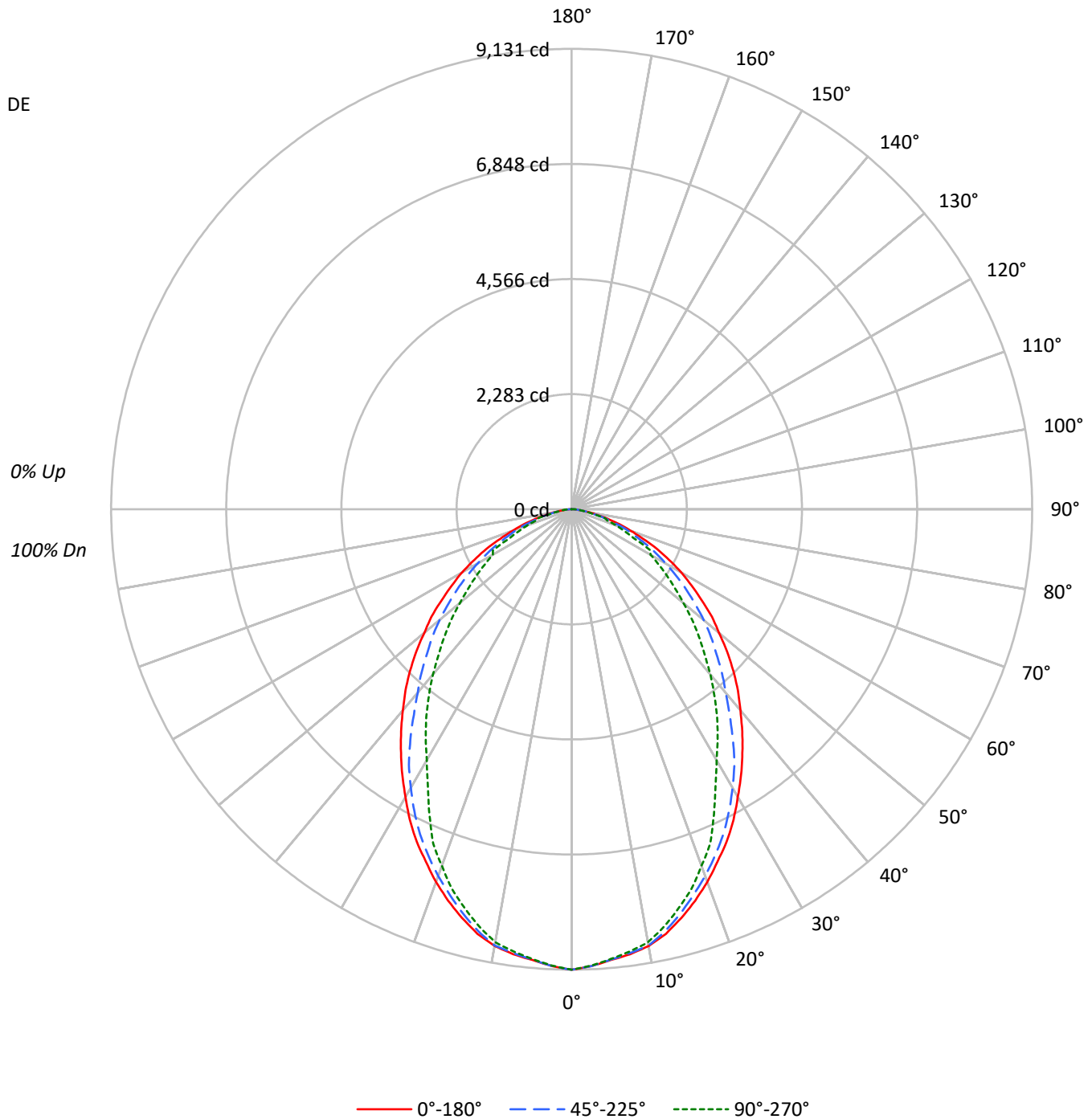
Lumens per Lamp: N/A  
Luminaire Lumens: 17926.0 lumens  
Efficiency: N/A  
Efficacy: 103.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	12286	12286	12286
5°	12119	12105	12091
10°	12014	12000	11913
15°	11690	11573	11411
20°	11261	11079	10777
25°	10798	10563	9905
30°	10234	9906	8922
35°	9693	9155	8253
40°	9141	8344	7509
45°	8617	7713	6789
50°	7977	7159	6054
55°	7379	6488	5423
60°	6761	5795	4857
65°	5949	5075	4302
70°	4901	4443	3655
75°	3896	3402	3567
80°	2617	2454	2290
85°	1630	1956	2282

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8617 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	850.0	4.7
10°-20°	2332.7	13.0
20°-30°	3229.5	18.0
30°-40°	3443.6	19.2
40°-50°	3141.6	17.5
50°-60°	2461.2	13.7
60°-70°	1604.1	8.9
70°-80°	710.7	4.0
80°-90°	152.6	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°	6412.3	35.8
0°-40°	9855.9	55.0
0°-60°	15458.7	86.2
0°-90°	17926.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17926.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9131	9131	9131	9131	9131	
5°	8973	8962	8962	8952	8952	852
15°	8392	8392	8308	8223	8192	2359
25°	7273	7231	7115	6862	6672	3339
35°	5901	5859	5574	5152	5025	3689
45°	4529	4434	4054	3716	3568	3488
55°	3146	3051	2766	2438	2312	2822
65°	1868	1763	1594	1626	1351	1841
75°	750	697	654	623	686	803
85°	106	116	127	137	148	146
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9131.3	9131.3	9131.3	9131.3	9131.3
2.5°	9067.9	9067.9	9067.9	9057.4	9057.4
5°	8972.9	8962.4	8962.4	8951.8	8951.8
7.5°	8899.0	8888.5	8877.9	8867.4	8846.2
10°	8793.5	8793.5	8782.9	8730.1	8719.6
12.5°	8624.6	8614.0	8571.8	8497.9	8476.8
15°	8392.3	8392.3	8307.9	8223.4	8191.7
17.5°	8139.0	8128.4	8022.8	7938.4	7896.2
20°	7864.5	7843.4	7737.8	7600.6	7526.7
22.5°	7558.4	7558.4	7431.7	7252.2	7178.3
25°	7273.3	7231.1	7115.0	6861.6	6671.6
27.5°	6946.1	6882.8	6756.1	6397.2	6175.5
30°	6587.2	6555.5	6376.1	5911.6	5742.7
32.5°	6249.4	6196.6	6006.6	5521.0	5383.8
35°	5901.0	5858.8	5573.8	5151.5	5024.8
37.5°	5552.7	5499.9	5141.0	4803.2	4644.8
40°	5204.3	5141.0	4750.4	4444.2	4275.3
42.5°	4877.0	4792.6	4412.6	4085.3	3895.3
45°	4528.7	4433.7	4053.6	3715.8	3568.1
47.5°	4180.3	4095.9	3747.5	3399.2	3230.3
50°	3810.9	3737.0	3420.3	3071.9	2892.4
52.5°	3504.7	3388.6	3082.5	2734.1	2586.3
55°	3145.8	3050.8	2765.8	2438.5	2311.8
57.5°	2818.6	2723.5	2459.6	2153.5	2047.9
60°	2512.4	2375.2	2153.5	1889.6	1805.1
62.5°	2174.6	2069.0	1879.0	1657.4	1762.9
65°	1868.5	1762.9	1594.0	1625.7	1351.2
67.5°	1530.7	1477.9	1330.1	1182.3	1140.1
70°	1245.7	1182.3	1129.5	971.2	929.0
72.5°	992.3	929.0	855.1	770.6	738.9
75°	749.5	696.7	654.5	622.8	686.2
77.5°	517.3	496.1	464.5	432.8	422.3
80°	337.8	327.2	316.7	306.1	295.6
82.5°	200.6	200.6	200.6	200.6	200.6
85°	105.6	116.1	126.7	137.2	147.8
87.5°	63.3	63.3	73.9	84.5	95.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)