

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: P563667

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-82-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563667  
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-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

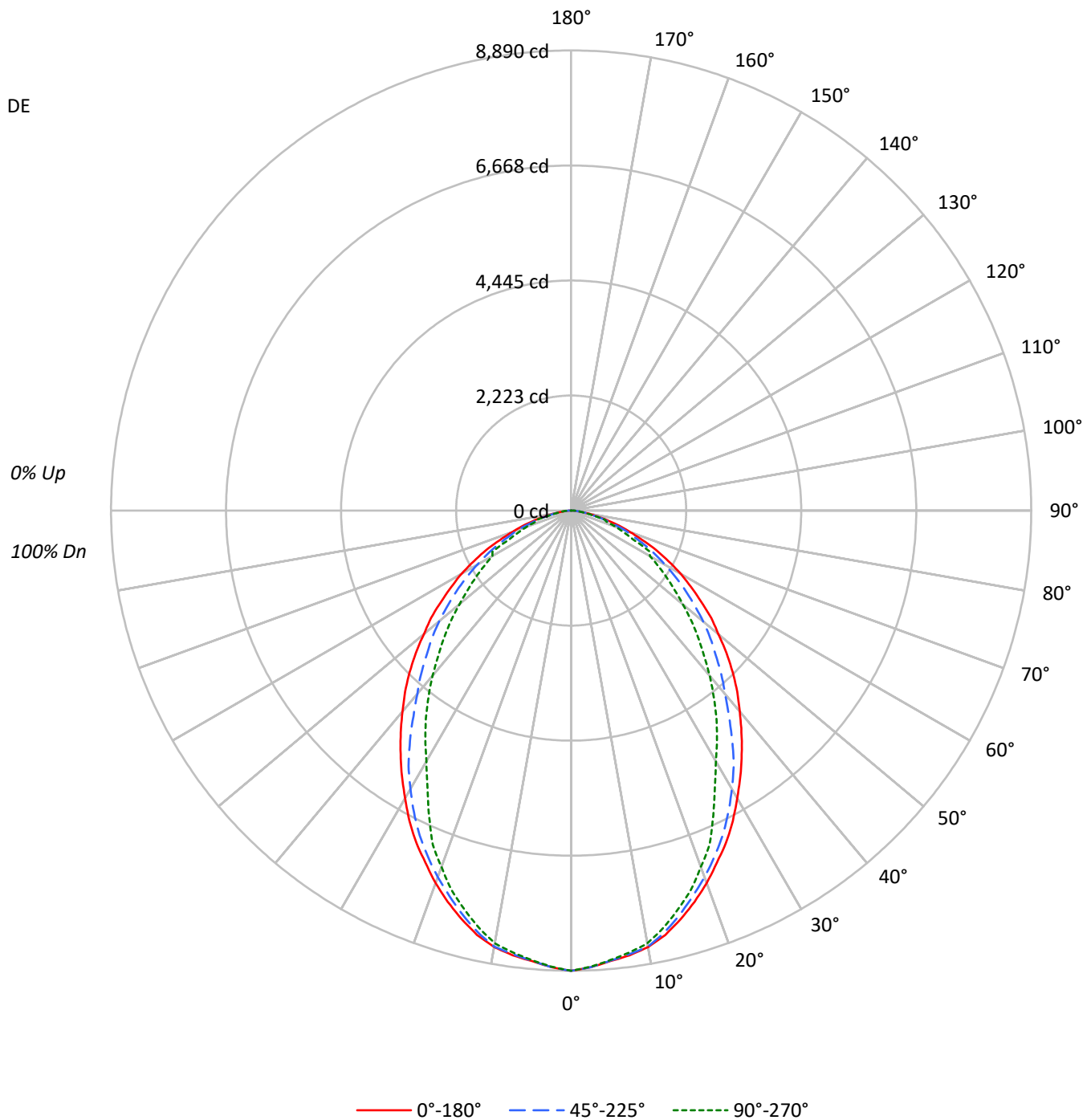
Lumens per Lamp: N/A  
Luminaire Lumens: 17453.0 lumens  
Efficiency: N/A  
Efficacy: 101.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77					75				
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67					65				
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58					56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52					50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46					44				
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42					40				
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38					36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34					33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32					30				

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

	0°	45°	90°
0°	11962	11962	11962
5°	11799	11785	11772
10°	11697	11683	11599
15°	11382	11267	11110
20°	10964	10787	10493
25°	10513	10284	9643
30°	9964	9645	8687
35°	9437	8914	8036
40°	8900	8123	7311
45°	8390	7510	6610
50°	7766	6970	5895
55°	7185	6317	5280
60°	6582	5642	4729
65°	5792	4941	4188
70°	4771	4326	3558
75°	3793	3313	3473
80°	2548	2389	2230
85°	1587	1903	2221

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8390 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	827.6	4.7
10°-20°	2271.2	13.0
20°-30°	3144.3	18.0
30°-40°	3352.8	19.2
40°-50°	3058.7	17.5
50°-60°	2396.2	13.7
60°-70°	1561.8	8.9
70°-80°	691.9	4.0
80°-90°	148.6	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°	6243.1	35.8
0°-40°	9595.8	55.0
0°-60°	15050.8	86.2
0°-90°	17453.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17453.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8890	8890	8890	8890	8890	
5°	8736	8726	8726	8716	8716	829
15°	8171	8171	8089	8006	7976	2297
25°	7081	7040	6927	6681	6496	3251
35°	5745	5704	5427	5016	4892	3592
45°	4409	4317	3947	3618	3474	3396
55°	3063	2970	2693	2374	2251	2747
65°	1819	1716	1552	1583	1316	1793
75°	730	678	637	606	668	782
85°	103	113	123	134	144	143
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8890.3	8890.3	8890.3	8890.3	8890.3
2.5°	8828.7	8828.7	8828.7	8818.4	8818.4
5°	8736.2	8725.9	8725.9	8715.6	8715.6
7.5°	8664.2	8653.9	8643.7	8633.4	8612.8
10°	8561.4	8561.4	8551.2	8499.8	8489.5
12.5°	8397.0	8386.7	8345.6	8273.7	8253.1
15°	8170.9	8170.9	8088.7	8006.4	7975.6
17.5°	7924.2	7913.9	7811.2	7728.9	7687.8
20°	7657.0	7636.4	7533.7	7400.0	7328.1
22.5°	7358.9	7358.9	7235.6	7060.9	6988.9
25°	7081.4	7040.3	6927.3	6680.6	6495.6
27.5°	6762.8	6701.1	6577.8	6228.4	6012.5
30°	6413.4	6382.5	6207.8	5755.6	5591.1
32.5°	6084.5	6033.1	5848.1	5375.3	5241.7
35°	5745.3	5704.2	5426.7	5015.6	4892.2
37.5°	5406.1	5354.8	5005.3	4676.4	4522.2
40°	5067.0	5005.3	4625.0	4327.0	4162.5
42.5°	4748.4	4666.1	4296.1	3977.5	3792.5
45°	4409.2	4316.7	3946.7	3617.8	3473.9
47.5°	4070.0	3987.8	3648.6	3309.5	3145.0
50°	3710.3	3638.4	3330.0	2990.8	2816.1
52.5°	3412.2	3299.2	3001.1	2662.0	2518.1
55°	3062.8	2970.3	2692.8	2374.2	2250.8
57.5°	2744.2	2651.7	2394.7	2096.7	1993.9
60°	2446.1	2312.5	2096.7	1839.7	1757.5
62.5°	2117.2	2014.5	1829.5	1613.6	1716.4
65°	1819.2	1716.4	1552.0	1582.8	1315.6
67.5°	1490.3	1438.9	1295.0	1151.1	1110.0
70°	1212.8	1151.1	1099.7	945.6	904.4
72.5°	966.1	904.4	832.5	750.3	719.4
75°	729.7	678.3	637.2	606.4	668.1
77.5°	503.6	483.1	452.2	421.4	411.1
80°	328.9	318.6	308.3	298.1	287.8
82.5°	195.3	195.3	195.3	195.3	195.3
85°	102.8	113.1	123.3	133.6	143.9
87.5°	61.7	61.7	71.9	82.2	92.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)