

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: P562961

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-82-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562961  
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-LD4-2STD-40-UNV-82-84-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

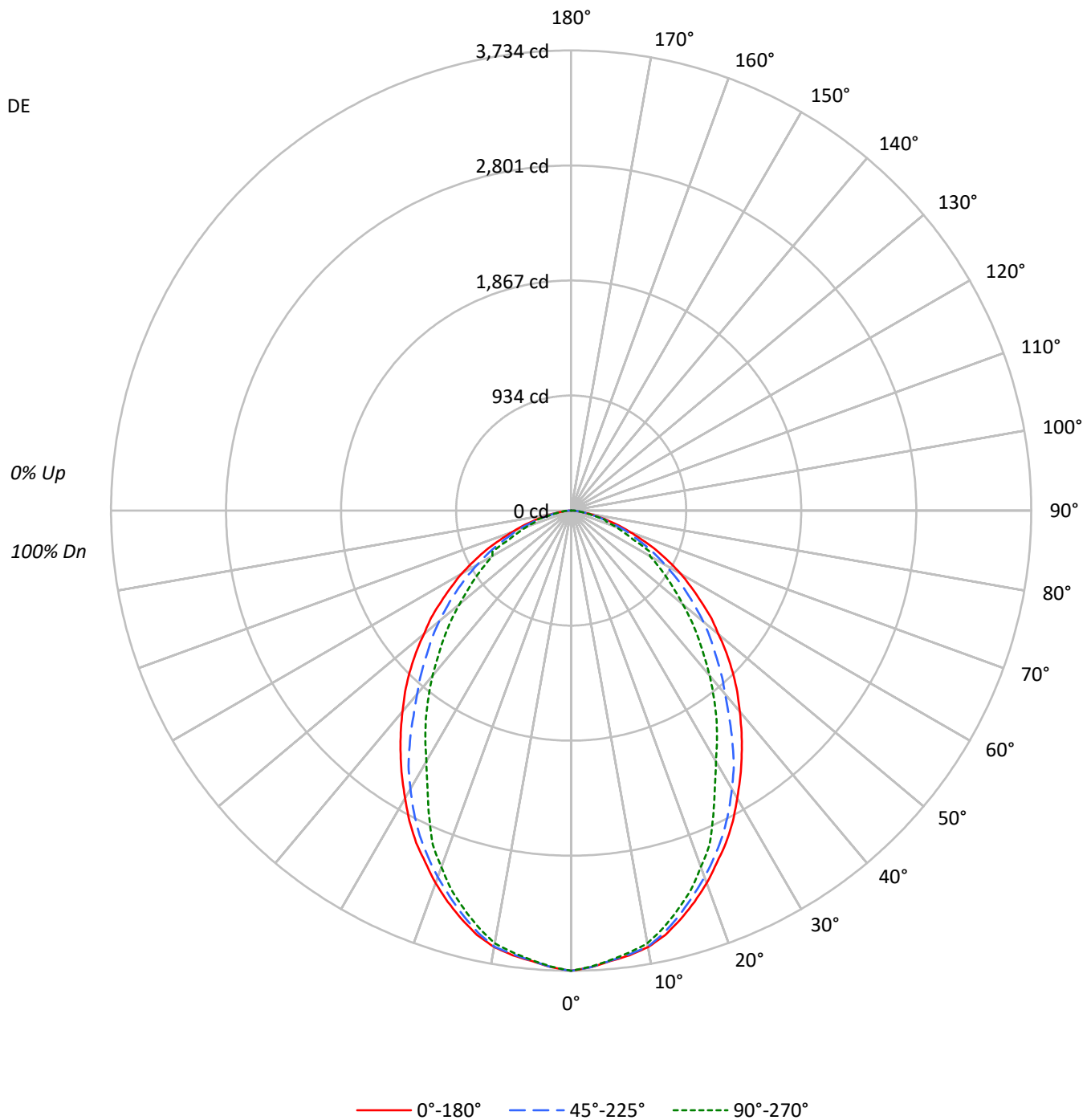
Lumens per Lamp: N/A  
Luminaire Lumens: 7331.0 lumens  
Efficiency: N/A  
Efficacy: 110.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5024	5024	5024
5°	4956	4950	4945
10°	4913	4907	4872
15°	4781	4733	4667
20°	4605	4531	4407
25°	4416	4320	4051
30°	4185	4051	3649
35°	3964	3744	3375
40°	3738	3412	3071
45°	3524	3154	2777
50°	3262	2928	2476
55°	3018	2653	2218
60°	2765	2370	1986
65°	2433	2075	1759
70°	2004	1817	1495
75°	1593	1392	1459
80°	1070	1003	937
85°	667	800	932

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3524 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	347.6	4.7
10°-20°	954.0	13.0
20°-30°	1320.7	18.0
30°-40°	1408.3	19.2
40°-50°	1284.8	17.5
50°-60°	1006.5	13.7
60°-70°	656.0	8.9
70°-80°	290.6	4.0
80°-90°	62.4	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°	2622.4	35.8
0°-40°	4030.7	55.0
0°-60°	6322.0	86.2
0°-90°	7331.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7331.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3734	3734	3734	3734	3734	
5°	3670	3665	3665	3661	3661	348
15°	3432	3432	3398	3363	3350	965
25°	2974	2957	2910	2806	2728	1366
35°	2413	2396	2279	2107	2055	1509
45°	1852	1813	1658	1520	1459	1427
55°	1286	1248	1131	997	946	1154
65°	764	721	652	665	553	753
75°	306	285	268	255	281	328
85°	43	48	52	56	60	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3734.3	3734.3	3734.3	3734.3	3734.3
2.5°	3708.4	3708.4	3708.4	3704.1	3704.1
5°	3669.6	3665.2	3665.2	3660.9	3660.9
7.5°	3639.3	3635.0	3630.7	3626.4	3617.8
10°	3596.2	3596.2	3591.8	3570.3	3565.9
12.5°	3527.1	3522.8	3505.5	3475.3	3466.7
15°	3432.1	3432.1	3397.6	3363.0	3350.1
17.5°	3328.5	3324.2	3281.0	3246.5	3229.2
20°	3216.3	3207.6	3164.5	3108.3	3078.1
22.5°	3091.1	3091.1	3039.3	2965.9	2935.6
25°	2974.5	2957.2	2909.7	2806.1	2728.4
27.5°	2840.7	2814.8	2763.0	2616.2	2525.5
30°	2693.9	2680.9	2607.5	2417.6	2348.5
32.5°	2555.7	2534.2	2456.4	2257.9	2201.7
35°	2413.3	2396.0	2279.4	2106.8	2055.0
37.5°	2270.8	2249.2	2102.4	1964.3	1899.5
40°	2128.3	2102.4	1942.7	1817.5	1748.4
42.5°	1994.5	1960.0	1804.6	1670.7	1593.0
45°	1852.0	1813.2	1657.8	1519.6	1459.2
47.5°	1709.6	1675.0	1532.6	1390.1	1321.0
50°	1558.5	1528.3	1398.7	1256.3	1182.9
52.5°	1433.3	1385.8	1260.6	1118.1	1057.7
55°	1286.5	1247.6	1131.1	997.3	945.5
57.5°	1152.7	1113.8	1005.9	880.7	837.5
60°	1027.5	971.4	880.7	772.8	738.2
62.5°	889.3	846.2	768.4	677.8	721.0
65°	764.1	721.0	651.9	664.8	552.6
67.5°	626.0	604.4	544.0	483.5	466.2
70°	509.4	483.5	461.9	397.2	379.9
72.5°	405.8	379.9	349.7	315.2	302.2
75°	306.5	284.9	267.7	254.7	280.6
77.5°	211.5	202.9	190.0	177.0	172.7
80°	138.1	133.8	129.5	125.2	120.9
82.5°	82.0	82.0	82.0	82.0	82.0
85°	43.2	47.5	51.8	56.1	60.4
87.5°	25.9	25.9	30.2	34.5	38.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)