

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: P562615

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562615  
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-LD4-2HI-50-UNV-80-87-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

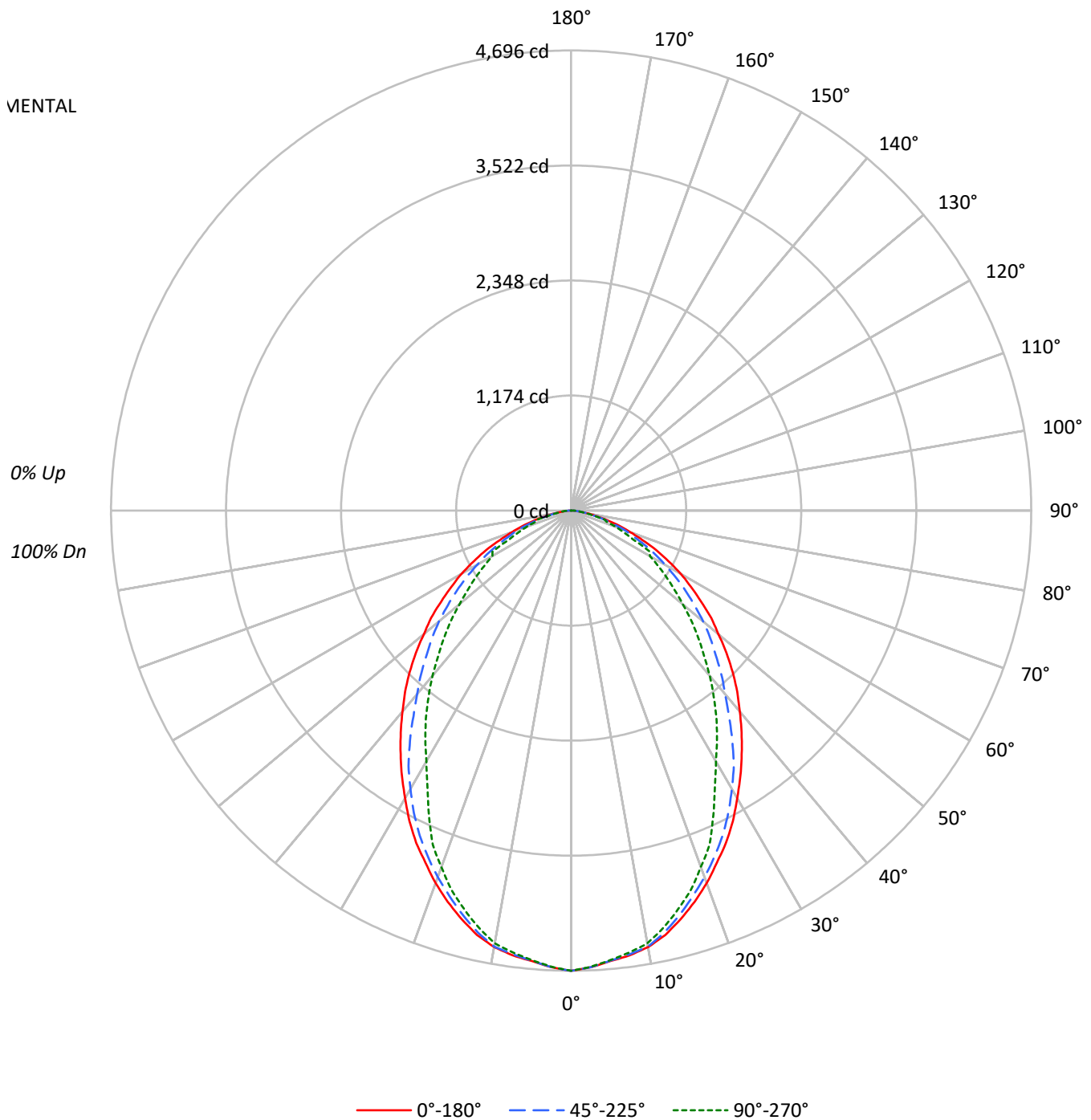
Lumens per Lamp: N/A  
Luminaire Lumens: 9220.0 lumens  
Efficiency: N/A  
Efficacy: 106.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P562615

CATALOG NUMBER: FSR-24-4-LD4-2HI-50-UNV-80-87-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P562615

CATALOG NUMBER: FSR-24-4-LD4-2HI-50-UNV-80-87-EDD

**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°	6319	6319	6319
5°	6233	6226	6219
10°	6179	6172	6127
15°	6013	5952	5869
20°	5792	5698	5543
25°	5554	5433	5094
30°	5264	5095	4589
35°	4985	4709	4245
40°	4702	4291	3862
45°	4432	3967	3492
50°	4103	3682	3114
55°	3795	3337	2789
60°	3477	2981	2498
65°	3060	2610	2213
70°	2520	2286	1880
75°	2004	1750	1835
80°	1346	1262	1178
85°	838	1007	1173

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4432 cd/sqm



TEST NUMBER: P562615

CATALOG NUMBER: FSR-24-4-LD4-2HI-50-UNV-80-87-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	437.2	4.7
10°-20°	1199.8	13.0
20°-30°	1661.1	18.0
30°-40°	1771.2	19.2
40°-50°	1615.8	17.5
50°-60°	1265.9	13.7
60°-70°	825.0	8.9
70°-80°	365.5	4.0
80°-90°	78.5	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°	3298.1	35.8
0°-40°	5069.2	55.0
0°-60°	7950.9	86.2
0°-90°	9220.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9220.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4696	4696	4696	4696	4696	
5°	4615	4610	4610	4604	4604	438
15°	4316	4316	4273	4230	4213	1213
25°	3741	3719	3660	3529	3432	1717
35°	3035	3013	2867	2650	2584	1897
45°	2329	2280	2085	1911	1835	1794
55°	1618	1569	1422	1254	1189	1451
65°	961	907	820	836	695	947
75°	386	358	337	320	353	413
85°	54	60	65	71	76	75
90°	0	0	0	0	0	



TEST NUMBER: P562615

CATALOG NUMBER: FSR-24-4-LD4-2HI-50-UNV-80-87-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4696.5	4696.5	4696.5	4696.5	4696.5
2.5°	4664.0	4664.0	4664.0	4658.5	4658.5
5°	4615.1	4609.7	4609.7	4604.2	4604.2
7.5°	4577.1	4571.7	4566.2	4560.8	4549.9
10°	4522.8	4522.8	4517.4	4490.2	4484.8
12.5°	4435.9	4430.5	4408.8	4370.8	4359.9
15°	4316.5	4316.5	4273.0	4229.6	4213.3
17.5°	4186.2	4180.7	4126.4	4083.0	4061.3
20°	4045.0	4034.1	3979.8	3909.3	3871.3
22.5°	3887.5	3887.5	3822.4	3730.1	3692.1
25°	3740.9	3719.2	3659.5	3529.2	3431.5
27.5°	3572.6	3540.1	3474.9	3290.3	3176.3
30°	3388.0	3371.7	3279.4	3040.5	2953.7
32.5°	3214.3	3187.1	3089.4	2839.6	2769.1
35°	3035.1	3013.4	2866.8	2649.6	2584.5
37.5°	2855.9	2828.8	2644.2	2470.4	2389.0
40°	2676.8	2644.2	2443.3	2285.8	2199.0
42.5°	2508.4	2465.0	2269.5	2101.2	2003.5
45°	2329.3	2280.4	2084.9	1911.2	1835.2
47.5°	2150.1	2106.7	1927.5	1748.3	1661.4
50°	1960.1	1922.1	1759.2	1580.0	1487.7
52.5°	1802.6	1742.9	1585.4	1406.2	1330.2
55°	1618.0	1569.1	1422.5	1254.2	1189.1
57.5°	1449.7	1400.8	1265.1	1107.6	1053.3
60°	1292.2	1221.6	1107.6	971.9	928.4
62.5°	1118.5	1064.2	966.5	852.4	906.7
65°	961.0	906.7	819.9	836.1	695.0
67.5°	787.3	760.1	684.1	608.1	586.4
70°	640.7	608.1	581.0	499.5	477.8
72.5°	510.4	477.8	439.8	396.4	380.1
75°	385.5	358.3	336.6	320.3	352.9
77.5°	266.0	255.2	238.9	222.6	217.2
80°	173.7	168.3	162.9	157.5	152.0
82.5°	103.2	103.2	103.2	103.2	103.2
85°	54.3	59.7	65.2	70.6	76.0
87.5°	32.6	32.6	38.0	43.4	48.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)