

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: P563122

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-80-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563122  
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-LD4-3HI-40-UNV-80-85-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

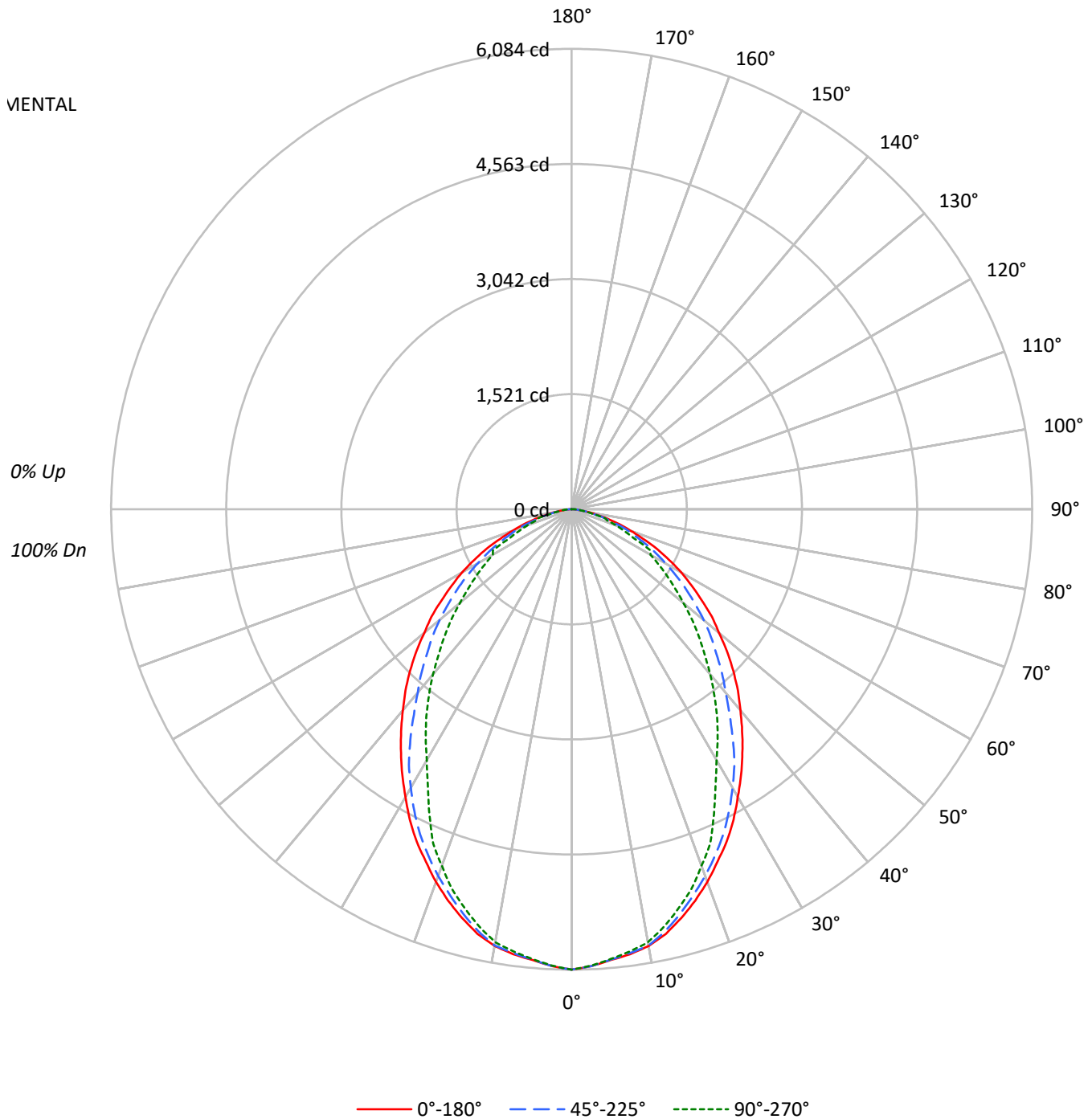
Lumens per Lamp: N/A  
Luminaire Lumens: 11944.0 lumens  
Efficiency: N/A  
Efficacy: 92.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8186	8186	8186
5°	8075	8065	8056
10°	8005	7995	7938
15°	7789	7711	7603
20°	7503	7382	7181
25°	7195	7038	6599
30°	6819	6600	5945
35°	6458	6100	5499
40°	6091	5559	5003
45°	5742	5139	4524
50°	5315	4770	4034
55°	4917	4323	3613
60°	4505	3861	3237
65°	3964	3381	2866
70°	3265	2961	2435
75°	2596	2267	2377
80°	1744	1635	1526
85°	1085	1303	1521

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5742 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	566.3	4.7
10°-20°	1554.3	13.0
20°-30°	2151.8	18.0
30°-40°	2294.5	19.2
40°-50°	2093.2	17.5
50°-60°	1639.9	13.7
60°-70°	1068.8	8.9
70°-80°	473.5	4.0
80°-90°	101.7	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°	4272.5	35.8
0°-40°	6566.9	55.0
0°-60°	10300.0	86.2
0°-90°	11944.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11944.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6084	6084	6084	6084	6084	
5°	5979	5972	5972	5964	5964	568
15°	5592	5592	5536	5479	5458	1572
25°	4846	4818	4741	4572	4445	2225
35°	3932	3904	3714	3432	3348	2458
45°	3017	2954	2701	2476	2377	2324
55°	2096	2033	1843	1625	1540	1880
65°	1245	1175	1062	1083	900	1227
75°	499	464	436	415	457	535
85°	70	77	84	91	98	98
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6084.1	6084.1	6084.1	6084.1	6084.1
2.5°	6041.9	6041.9	6041.9	6034.9	6034.9
5°	5978.6	5971.6	5971.6	5964.5	5964.5
7.5°	5929.4	5922.3	5915.3	5908.3	5894.2
10°	5859.0	5859.0	5852.0	5816.8	5809.8
12.5°	5746.5	5739.5	5711.3	5662.1	5648.0
15°	5591.8	5591.8	5535.5	5479.2	5458.1
17.5°	5423.0	5415.9	5345.6	5289.3	5261.2
20°	5240.1	5226.0	5155.7	5064.2	5015.0
22.5°	5036.1	5036.1	4951.7	4832.1	4782.9
25°	4846.2	4818.1	4740.7	4571.9	4445.3
27.5°	4628.1	4585.9	4501.5	4262.4	4114.7
30°	4389.0	4367.9	4248.3	3938.8	3826.3
32.5°	4163.9	4128.8	4002.2	3678.6	3587.2
35°	3931.8	3903.7	3713.8	3432.4	3348.0
37.5°	3699.7	3664.5	3425.4	3200.3	3094.8
40°	3467.6	3425.4	3165.1	2961.2	2848.6
42.5°	3249.5	3193.3	2940.1	2722.0	2595.4
45°	3017.4	2954.1	2700.9	2475.8	2377.4
47.5°	2785.3	2729.1	2496.9	2264.8	2152.3
50°	2539.2	2489.9	2278.9	2046.8	1927.2
52.5°	2335.2	2257.8	2053.8	1821.7	1723.2
55°	2096.0	2032.7	1842.8	1624.8	1540.4
57.5°	1878.0	1814.7	1638.8	1434.9	1364.5
60°	1674.0	1582.6	1434.9	1259.0	1202.8
62.5°	1448.9	1378.6	1252.0	1104.3	1174.6
65°	1245.0	1174.6	1062.1	1083.2	900.3
67.5°	1019.9	984.7	886.2	787.8	759.6
70°	830.0	787.8	752.6	647.1	619.0
72.5°	661.2	619.0	569.7	513.5	492.4
75°	499.4	464.2	436.1	415.0	457.2
77.5°	344.6	330.6	309.5	288.4	281.3
80°	225.1	218.0	211.0	204.0	196.9
82.5°	133.6	133.6	133.6	133.6	133.6
85°	70.3	77.4	84.4	91.4	98.5
87.5°	42.2	42.2	49.2	56.3	63.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)