

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: P563218

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-82-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563218  
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-50-UNV-82-85-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

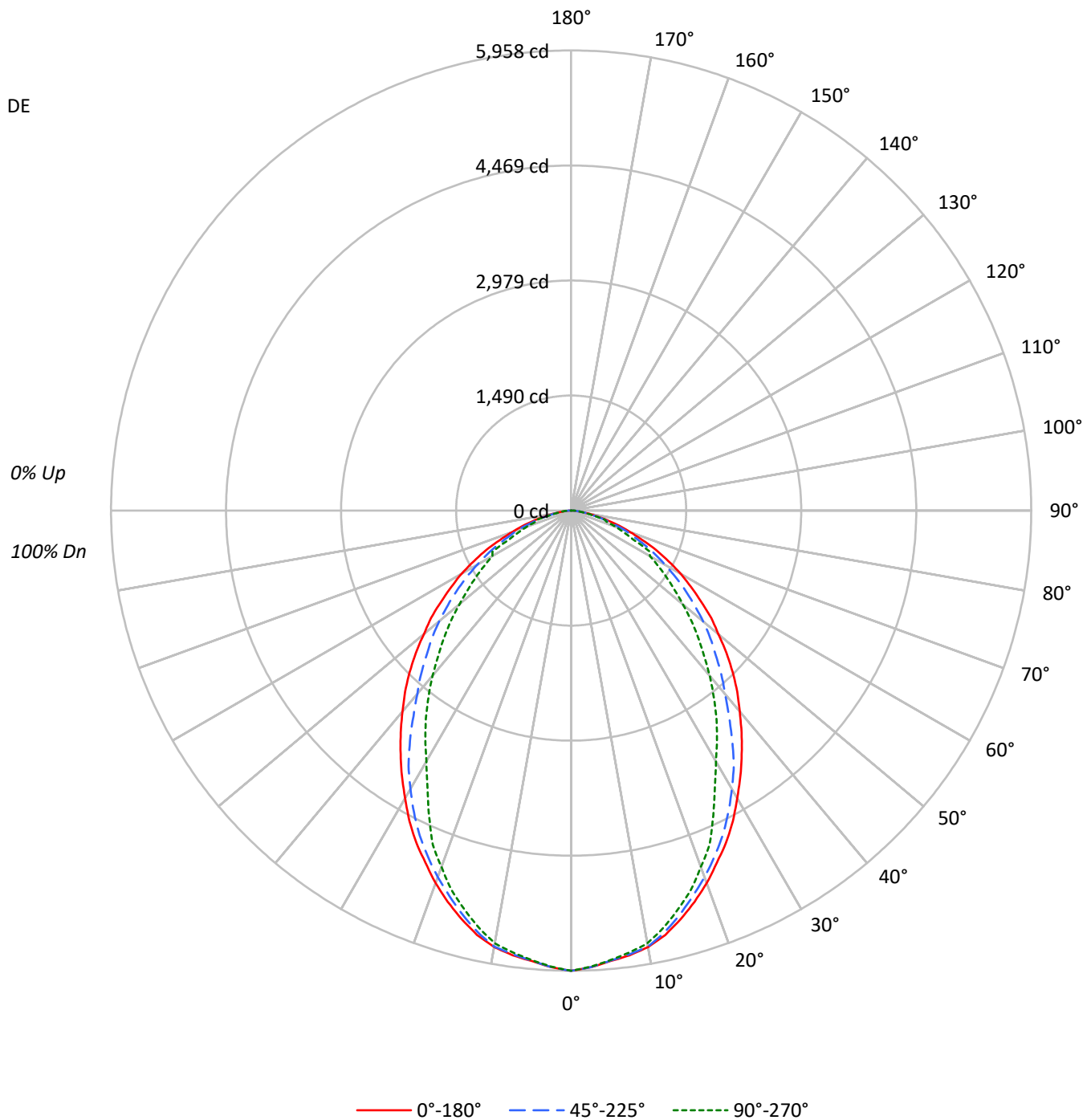
Lumens per Lamp: N/A  
Luminaire Lumens: 11697.0 lumens  
Efficiency: N/A  
Efficacy: 90.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	8017	8017	8017
5°	7908	7899	7889
10°	7839	7830	7774
15°	7628	7551	7446
20°	7348	7230	7032
25°	7046	6892	6463
30°	6678	6464	5822
35°	6325	5974	5386
40°	5965	5444	4900
45°	5623	5033	4430
50°	5205	4672	3951
55°	4815	4233	3539
60°	4412	3781	3170
65°	3882	3311	2807
70°	3198	2899	2385
75°	2543	2220	2327
80°	1708	1601	1495
85°	1064	1277	1488

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5623 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	554.6	4.7
10°-20°	1522.2	13.0
20°-30°	2107.3	18.0
30°-40°	2247.0	19.2
40°-50°	2049.9	17.5
50°-60°	1606.0	13.7
60°-70°	1046.7	8.9
70°-80°	463.7	4.0
80°-90°	99.6	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°	4184.1	35.8
0°-40°	6431.1	55.0
0°-60°	10087.0	86.2
0°-90°	11697.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11697.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5958	5958	5958	5958	5958	
5°	5855	5848	5848	5841	5841	556
15°	5476	5476	5421	5366	5345	1539
25°	4746	4718	4643	4477	4353	2179
35°	3850	3823	3637	3361	3279	2407
45°	2955	2893	2645	2425	2328	2276
55°	2053	1991	1805	1591	1508	1841
65°	1219	1150	1040	1061	882	1202
75°	489	455	427	406	448	524
85°	69	76	83	90	96	96
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5958.3	5958.3	5958.3	5958.3	5958.3
2.5°	5917.0	5917.0	5917.0	5910.1	5910.1
5°	5855.0	5848.1	5848.1	5841.2	5841.2
7.5°	5806.8	5799.9	5793.0	5786.1	5772.3
10°	5737.9	5737.9	5731.0	5696.5	5689.7
12.5°	5627.7	5620.8	5593.2	5545.0	5531.2
15°	5476.1	5476.1	5421.0	5365.9	5345.2
17.5°	5310.8	5303.9	5235.0	5179.9	5152.4
20°	5131.7	5117.9	5049.1	4959.5	4911.3
22.5°	4932.0	4932.0	4849.3	4732.2	4684.0
25°	4746.0	4718.4	4642.6	4477.3	4353.3
27.5°	4532.4	4491.1	4408.4	4174.3	4029.6
30°	4298.2	4277.6	4160.5	3857.4	3747.2
32.5°	4077.8	4043.4	3919.4	3602.5	3513.0
35°	3850.5	3823.0	3637.0	3361.4	3278.8
37.5°	3623.2	3588.8	3354.6	3134.1	3030.8
40°	3395.9	3354.6	3099.7	2899.9	2789.7
42.5°	3182.3	3127.2	2879.3	2665.7	2541.7
45°	2955.0	2893.0	2645.1	2424.6	2328.2
47.5°	2727.7	2672.6	2445.3	2218.0	2107.8
50°	2486.6	2438.4	2231.8	2004.5	1887.4
52.5°	2286.9	2211.1	2011.4	1784.0	1687.6
55°	2052.7	1990.7	1804.7	1591.2	1508.5
57.5°	1839.2	1777.2	1605.0	1405.2	1336.3
60°	1639.4	1549.8	1405.2	1233.0	1177.9
62.5°	1419.0	1350.1	1226.1	1081.4	1150.3
65°	1219.2	1150.3	1040.1	1060.8	881.7
67.5°	998.8	964.3	867.9	771.5	743.9
70°	812.8	771.5	737.0	633.7	606.2
72.5°	647.5	606.2	557.9	502.8	482.2
75°	489.1	454.6	427.1	406.4	447.7
77.5°	337.5	323.7	303.1	282.4	275.5
80°	220.4	213.5	206.6	199.8	192.9
82.5°	130.9	130.9	130.9	130.9	130.9
85°	68.9	75.8	82.7	89.5	96.4
87.5°	41.3	41.3	48.2	55.1	62.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)