

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: P563479

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-82-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563479  
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-LD4-3STD-35-UNV-82-87-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

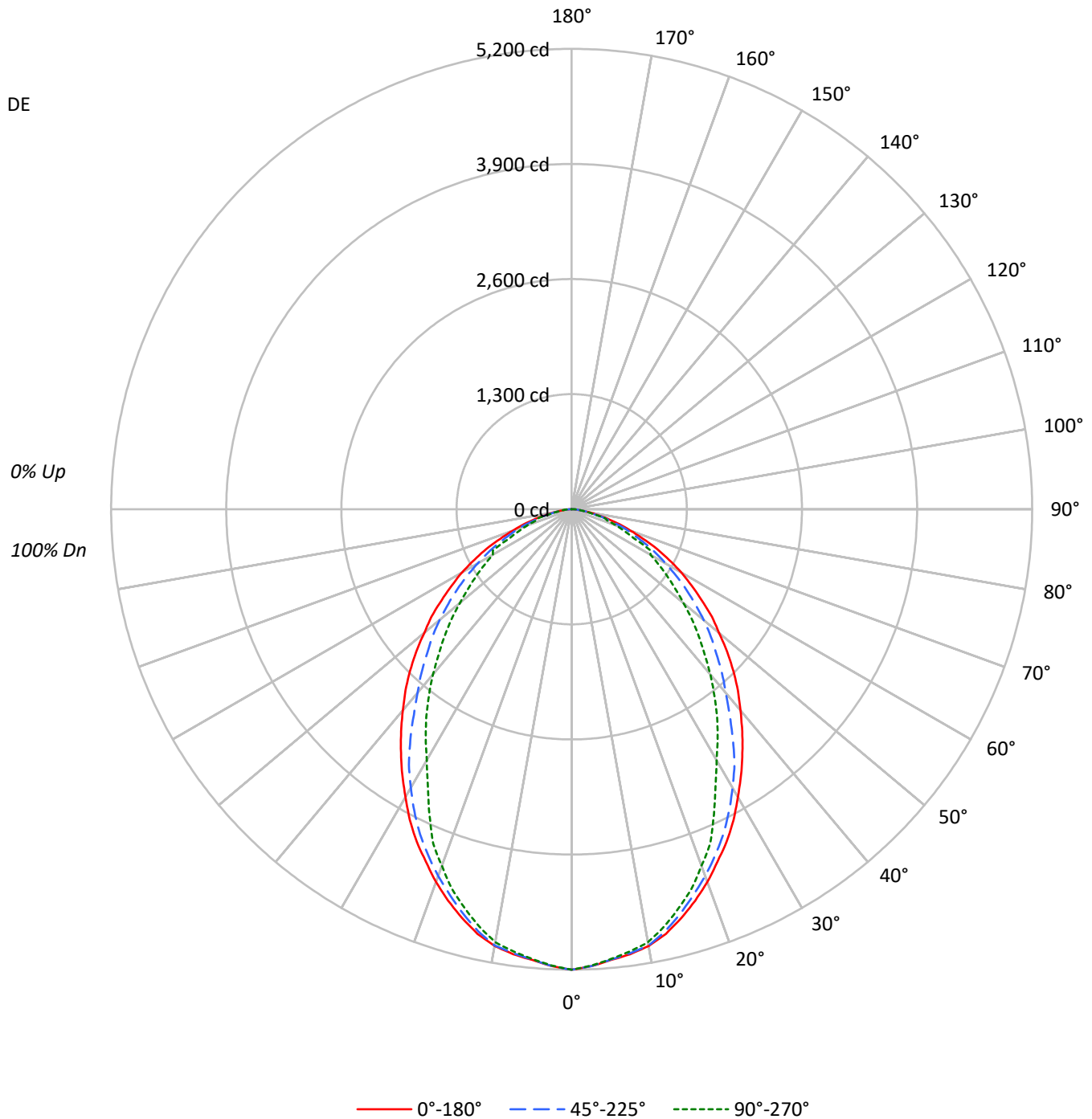
Lumens per Lamp: N/A  
Luminaire Lumens: 10209.0 lumens  
Efficiency: N/A  
Efficacy: 102.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6997	6997	6997
5°	6902	6894	6886
10°	6842	6834	6785
15°	6658	6591	6499
20°	6413	6310	6138
25°	6149	6016	5641
30°	5828	5642	5081
35°	5520	5214	4700
40°	5206	4752	4277
45°	4908	4393	3867
50°	4543	4077	3448
55°	4203	3695	3088
60°	3850	3300	2766
65°	3388	2890	2450
70°	2791	2531	2081
75°	2219	1938	2032
80°	1491	1398	1304
85°	928	1113	1300

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4908 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	484.1	4.7
10°-20°	1328.5	13.0
20°-30°	1839.2	18.0
30°-40°	1961.2	19.2
40°-50°	1789.1	17.5
50°-60°	1401.7	13.7
60°-70°	913.5	8.9
70°-80°	404.7	4.0
80°-90°	86.9	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°	3651.8	35.8
0°-40°	5613.0	55.0
0°-60°	8803.8	86.2
0°-90°	10209.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10209.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5200	5200	5200	5200	5200	
5°	5110	5104	5104	5098	5098	485
15°	4780	4780	4731	4683	4665	1344
25°	4142	4118	4052	3908	3800	1902
35°	3361	3337	3174	2934	2862	2101
45°	2579	2525	2309	2116	2032	1987
55°	1792	1738	1575	1389	1317	1607
65°	1064	1004	908	926	770	1049
75°	427	397	373	355	391	457
85°	60	66	72	78	84	83
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5200.3	5200.3	5200.3	5200.3	5200.3
2.5°	5164.3	5164.3	5164.3	5158.2	5158.2
5°	5110.1	5104.1	5104.1	5098.1	5098.1
7.5°	5068.1	5062.1	5056.0	5050.0	5038.0
10°	5007.9	5007.9	5001.9	4971.9	4965.9
12.5°	4911.8	4905.7	4881.7	4839.6	4827.6
15°	4779.5	4779.5	4731.4	4683.3	4665.3
17.5°	4635.2	4629.2	4569.1	4521.0	4496.9
20°	4478.9	4466.9	4406.8	4328.6	4286.5
22.5°	4304.5	4304.5	4232.4	4130.2	4088.1
25°	4142.2	4118.2	4052.0	3907.8	3799.5
27.5°	3955.9	3919.8	3847.6	3643.2	3517.0
30°	3751.5	3733.4	3631.2	3366.7	3270.5
32.5°	3559.1	3529.0	3420.8	3144.2	3066.1
35°	3360.7	3336.6	3174.3	2933.8	2861.7
37.5°	3162.3	3132.2	2927.8	2735.4	2645.3
40°	2963.9	2927.8	2705.4	2531.0	2434.8
42.5°	2777.5	2729.4	2513.0	2326.6	2218.4
45°	2579.1	2525.0	2308.6	2116.2	2032.0
47.5°	2380.7	2332.6	2134.2	1935.8	1839.7
50°	2170.3	2128.2	1947.9	1749.5	1647.3
52.5°	1996.0	1929.8	1755.5	1557.1	1472.9
55°	1791.6	1737.5	1575.1	1388.8	1316.6
57.5°	1605.2	1551.1	1400.8	1226.4	1166.3
60°	1430.8	1352.7	1226.4	1076.1	1028.0
62.5°	1238.5	1178.3	1070.1	943.9	1004.0
65°	1064.1	1004.0	907.8	925.8	769.5
67.5°	871.7	841.7	757.5	673.3	649.3
70°	709.4	673.3	643.3	553.1	529.1
72.5°	565.1	529.1	487.0	438.9	420.8
75°	426.8	396.8	372.7	354.7	390.8
77.5°	294.6	282.6	264.5	246.5	240.5
80°	192.4	186.4	180.4	174.3	168.3
82.5°	114.2	114.2	114.2	114.2	114.2
85°	60.1	66.1	72.1	78.2	84.2
87.5°	36.1	36.1	42.1	48.1	54.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)