

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: P563572

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563572  
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-50-UNV-80-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

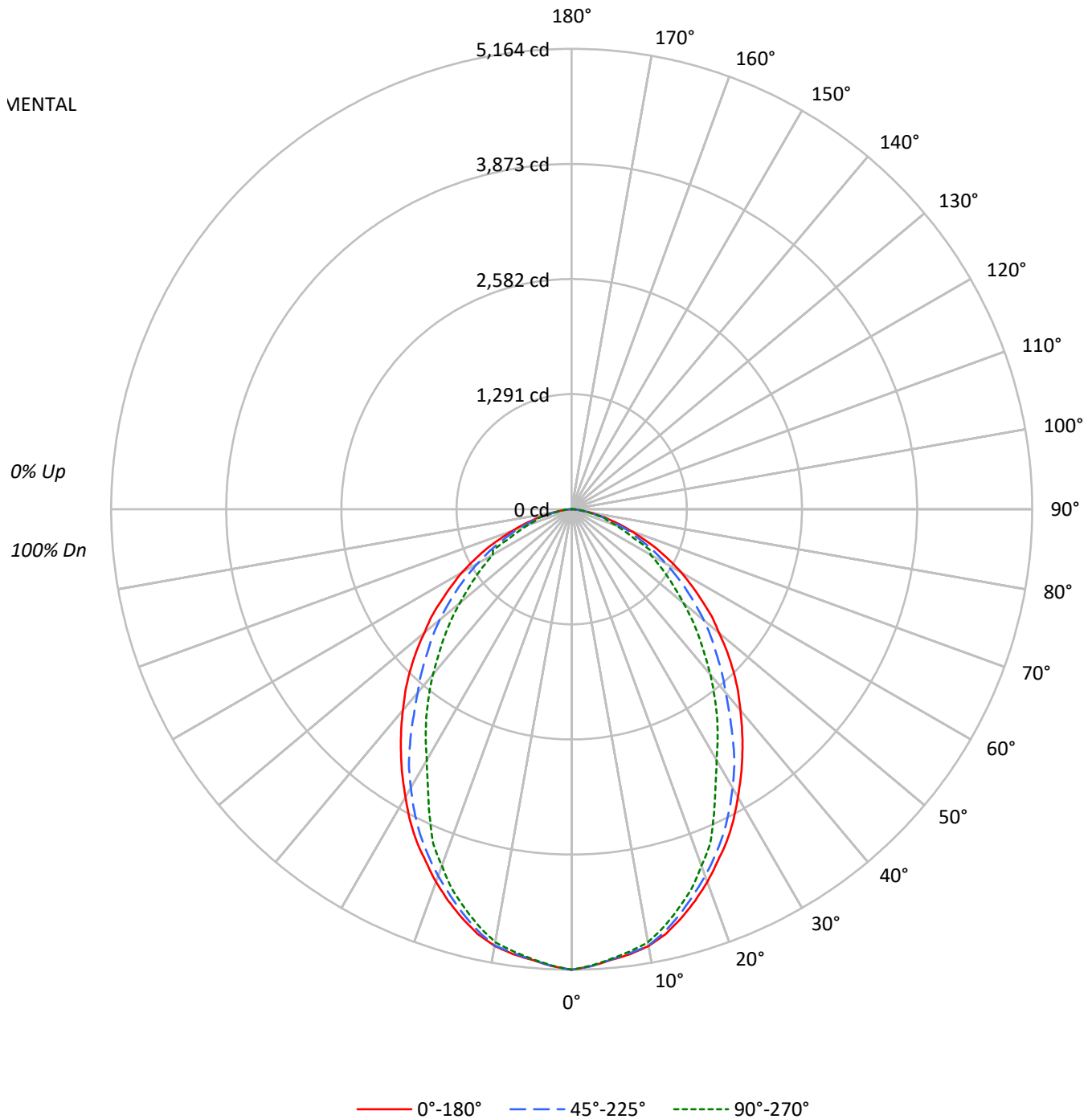
Lumens per Lamp: N/A  
Luminaire Lumens: 10138.0 lumens  
Efficiency: N/A  
Efficacy: 101.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6948	6948	6948
5°	6854	6846	6838
10°	6794	6786	6737
15°	6611	6545	6453
20°	6368	6266	6095
25°	6107	5974	5601
30°	5788	5602	5046
35°	5482	5178	4668
40°	5170	4719	4247
45°	4873	4362	3840
50°	4511	4049	3424
55°	4173	3669	3067
60°	3824	3277	2747
65°	3364	2870	2433
70°	2771	2513	2067
75°	2204	1924	2018
80°	1480	1388	1296
85°	922	1105	1291

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4873 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	480.7	4.7
10°-20°	1319.3	13.0
20°-30°	1826.5	18.0
30°-40°	1947.5	19.2
40°-50°	1776.7	17.5
50°-60°	1391.9	13.7
60°-70°	907.2	8.9
70°-80°	401.9	4.0
80°-90°	86.3	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°	3626.4	35.8
0°-40°	5574.0	55.0
0°-60°	8742.6	86.2
0°-90°	10138.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10138.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5164	5164	5164	5164	5164	
5°	5075	5069	5069	5063	5063	482
15°	4746	4746	4698	4651	4633	1334
25°	4113	4090	4024	3881	3773	1888
35°	3337	3313	3152	2913	2842	2086
45°	2561	2508	2292	2102	2018	1973
55°	1779	1725	1564	1379	1308	1596
65°	1057	997	902	919	764	1041
75°	424	394	370	352	388	454
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°	5164.2	5164.2	5164.2	5164.2	5164.2
2.5°	5128.3	5128.3	5128.3	5122.4	5122.4
5°	5074.6	5068.6	5068.6	5062.7	5062.7
7.5°	5032.8	5026.8	5020.9	5014.9	5003.0
10°	4973.1	4973.1	4967.1	4937.3	4931.3
12.5°	4877.6	4871.6	4847.7	4806.0	4794.0
15°	4746.3	4746.3	4698.5	4650.7	4632.8
17.5°	4603.0	4597.0	4537.3	4489.5	4465.7
20°	4447.7	4435.8	4376.1	4298.5	4256.7
22.5°	4274.6	4274.6	4203.0	4101.5	4059.7
25°	4113.4	4089.5	4023.9	3880.6	3773.1
27.5°	3928.3	3892.5	3820.9	3617.9	3492.5
30°	3725.4	3707.5	3606.0	3343.3	3247.8
32.5°	3534.3	3504.5	3397.0	3122.4	3044.8
35°	3337.3	3313.4	3152.2	2913.4	2841.8
37.5°	3140.3	3110.4	2907.5	2716.4	2626.9
40°	2943.3	2907.5	2686.6	2513.4	2417.9
42.5°	2758.2	2710.4	2495.5	2310.4	2203.0
45°	2561.2	2507.5	2292.5	2101.5	2017.9
47.5°	2364.2	2316.4	2119.4	1922.4	1826.9
50°	2155.2	2113.4	1934.3	1737.3	1635.8
52.5°	1982.1	1916.4	1743.3	1546.3	1462.7
55°	1779.1	1725.4	1564.2	1379.1	1307.5
57.5°	1594.0	1540.3	1391.0	1217.9	1158.2
60°	1420.9	1343.3	1217.9	1068.7	1020.9
62.5°	1229.8	1170.1	1062.7	937.3	997.0
65°	1056.7	997.0	901.5	919.4	764.2
67.5°	865.7	835.8	752.2	668.7	644.8
70°	704.5	668.7	638.8	549.3	525.4
72.5°	561.2	525.4	483.6	435.8	417.9
75°	423.9	394.0	370.1	352.2	388.1
77.5°	292.5	280.6	262.7	244.8	238.8
80°	191.0	185.1	179.1	173.1	167.2
82.5°	113.4	113.4	113.4	113.4	113.4
85°	59.7	65.7	71.6	77.6	83.6
87.5°	35.8	35.8	41.8	47.8	53.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)