

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: P563573

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

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563573  
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  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

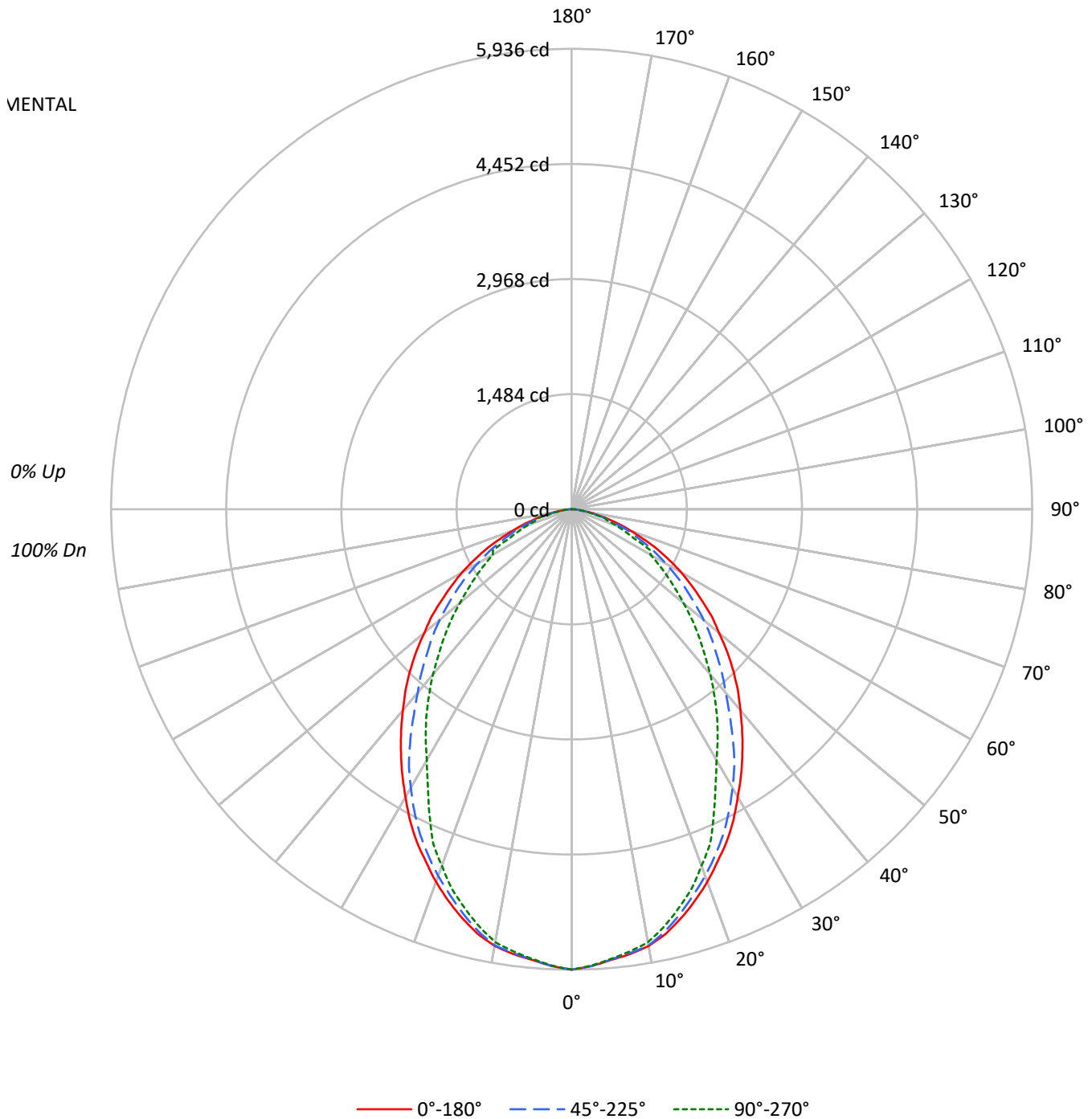
Lumens per Lamp: N/A  
Luminaire Lumens: 11653.0 lumens  
Efficiency: N/A  
Efficacy: 116.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7987	7987	7987
5°	7878	7869	7860
10°	7810	7800	7744
15°	7599	7523	7418
20°	7320	7202	7006
25°	7019	6866	6439
30°	6653	6440	5800
35°	6301	5951	5365
40°	5942	5424	4881
45°	5602	5014	4414
50°	5186	4654	3936
55°	4797	4217	3525
60°	4395	3767	3158
65°	3867	3299	2797
70°	3186	2889	2376
75°	2533	2212	2319
80°	1702	1595	1488
85°	1059	1271	1484

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5602 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	552.5	4.7
10°-20°	1516.4	13.0
20°-30°	2099.4	18.0
30°-40°	2238.6	19.2
40°-50°	2042.2	17.5
50°-60°	1599.9	13.7
60°-70°	1042.7	8.9
70°-80°	462.0	4.0
80°-90°	99.2	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°	4168.4	35.8
0°-40°	6406.9	55.0
0°-60°	10049.1	86.2
0°-90°	11653.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11653.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5936	5936	5936	5936	5936	
5°	5833	5826	5826	5819	5819	554
15°	5456	5456	5401	5346	5325	1534
25°	4728	4701	4625	4460	4337	2171
35°	3836	3809	3623	3349	3266	2398
45°	2944	2882	2635	2416	2320	2268
55°	2045	1983	1798	1585	1503	1834
65°	1215	1146	1036	1057	878	1197
75°	487	453	426	405	446	522
85°	69	76	82	89	96	95
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5935.9	5935.9	5935.9	5935.9	5935.9
2.5°	5894.7	5894.7	5894.7	5887.8	5887.8
5°	5832.9	5826.1	5826.1	5819.2	5819.2
7.5°	5784.9	5778.0	5771.2	5764.3	5750.6
10°	5716.3	5716.3	5709.4	5675.1	5668.3
12.5°	5606.5	5599.6	5572.2	5524.1	5510.4
15°	5455.5	5455.5	5400.6	5345.7	5325.1
17.5°	5290.8	5284.0	5215.3	5160.4	5133.0
20°	5112.4	5098.7	5030.1	4940.9	4892.8
22.5°	4913.4	4913.4	4831.1	4714.4	4666.4
25°	4728.1	4700.7	4625.2	4460.5	4337.0
27.5°	4515.4	4474.2	4391.9	4158.5	4014.4
30°	4282.1	4261.5	4144.8	3842.9	3733.1
32.5°	4062.5	4028.2	3904.6	3589.0	3499.8
35°	3836.0	3808.6	3623.3	3348.8	3266.5
37.5°	3609.6	3575.3	3341.9	3122.3	3019.4
40°	3383.1	3341.9	3088.0	2889.0	2779.2
42.5°	3170.4	3115.5	2868.4	2655.7	2532.2
45°	2943.9	2882.2	2635.1	2415.5	2319.5
47.5°	2717.5	2662.6	2436.1	2209.7	2099.9
50°	2477.3	2429.3	2223.4	1996.9	1880.3
52.5°	2278.3	2202.8	2003.8	1777.3	1681.3
55°	2045.0	1983.2	1797.9	1585.2	1502.8
57.5°	1832.2	1770.5	1598.9	1399.9	1331.3
60°	1633.2	1544.0	1399.9	1228.4	1173.5
62.5°	1413.6	1345.0	1221.5	1077.4	1146.0
65°	1214.6	1146.0	1036.2	1056.8	878.4
67.5°	995.0	960.7	864.6	768.6	741.1
70°	809.8	768.6	734.3	631.3	603.9
72.5°	645.1	603.9	555.8	500.9	480.4
75°	487.2	452.9	425.5	404.9	446.0
77.5°	336.3	322.5	301.9	281.4	274.5
80°	219.6	212.7	205.9	199.0	192.1
82.5°	130.4	130.4	130.4	130.4	130.4
85°	68.6	75.5	82.3	89.2	96.1
87.5°	41.2	41.2	48.0	54.9	61.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)