

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: P563184

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563184  
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-80-84-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

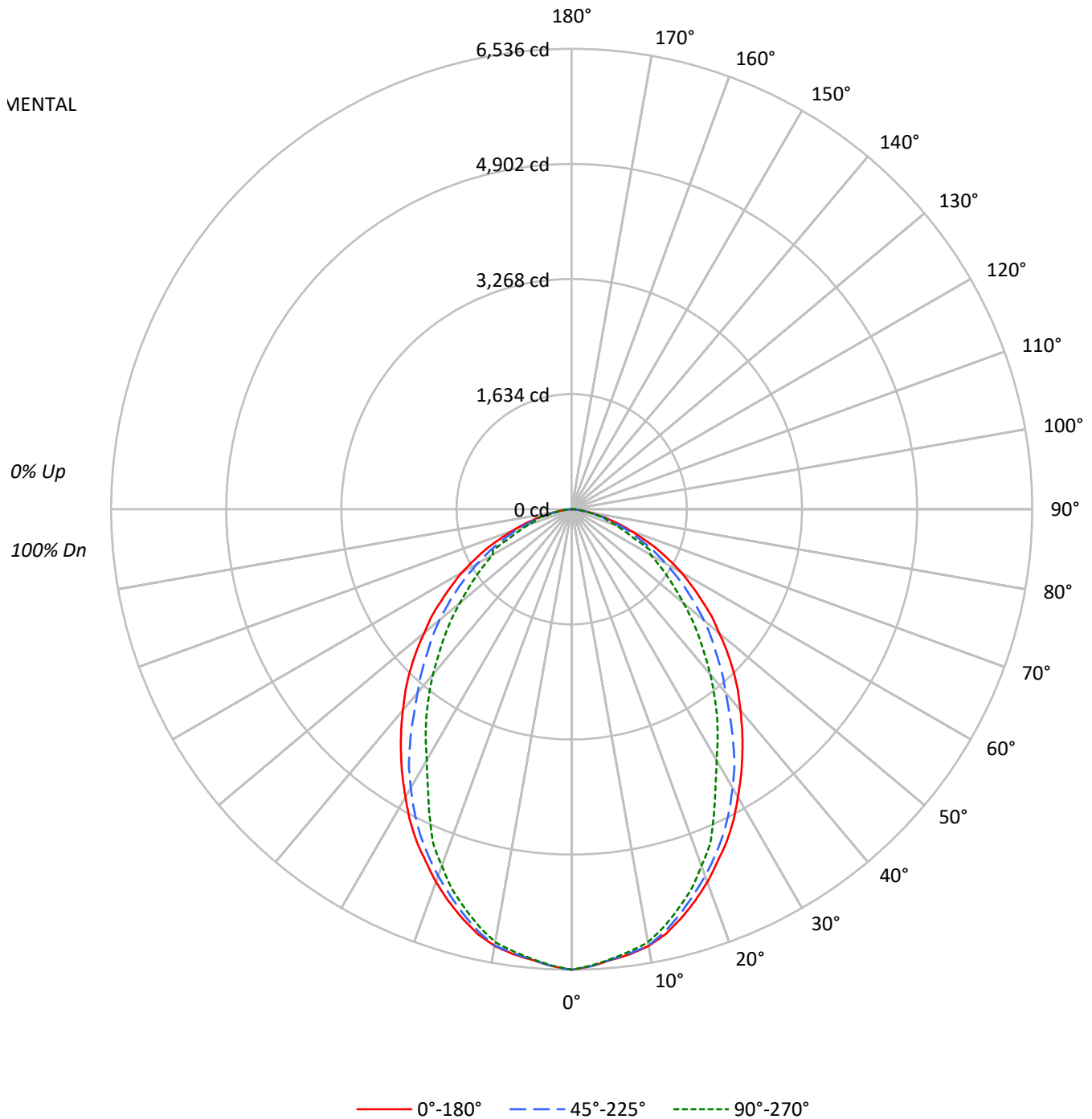
Lumens per Lamp: N/A  
Luminaire Lumens: 12832.0 lumens  
Efficiency: N/A  
Efficacy: 99.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8795	8795	8795
5°	8675	8665	8655
10°	8600	8590	8528
15°	8368	8284	8168
20°	8061	7931	7714
25°	7729	7561	7090
30°	7326	7091	6387
35°	6938	6554	5908
40°	6543	5973	5375
45°	6169	5521	4860
50°	5710	5125	4334
55°	5282	4644	3882
60°	4840	4148	3477
65°	4258	3633	3079
70°	3508	3181	2616
75°	2789	2436	2554
80°	1874	1757	1640
85°	1167	1400	1633

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6169 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	608.5	4.7
10°-20°	1669.9	13.0
20°-30°	2311.8	18.0
30°-40°	2465.1	19.2
40°-50°	2248.8	17.5
50°-60°	1761.8	13.7
60°-70°	1148.2	8.9
70°-80°	508.7	4.0
80°-90°	109.2	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°	4590.1	35.8
0°-40°	7055.2	55.0
0°-60°	11065.8	86.2
0°-90°	12832.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12832.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6536	6536	6536	6536	6536	
5°	6423	6416	6416	6408	6408	610
15°	6008	6008	5947	5887	5864	1689
25°	5206	5176	5093	4912	4776	2390
35°	4224	4194	3990	3688	3597	2641
45°	3242	3174	2902	2660	2554	2497
55°	2252	2184	1980	1746	1655	2020
65°	1338	1262	1141	1164	967	1318
75°	536	499	468	446	491	575
85°	76	83	91	98	106	105
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6536.4	6536.4	6536.4	6536.4	6536.4
2.5°	6491.1	6491.1	6491.1	6483.6	6483.6
5°	6423.1	6415.5	6415.5	6408.0	6408.0
7.5°	6370.2	6362.6	6355.1	6347.5	6332.4
10°	6294.6	6294.6	6287.1	6249.3	6241.7
12.5°	6173.7	6166.2	6136.0	6083.1	6067.9
15°	6007.5	6007.5	5947.0	5886.6	5863.9
17.5°	5826.1	5818.6	5743.0	5682.6	5652.3
20°	5629.7	5614.5	5539.0	5440.7	5387.8
22.5°	5410.5	5410.5	5319.8	5191.4	5138.5
25°	5206.5	5176.3	5093.1	4911.8	4775.8
27.5°	4972.2	4926.9	4836.2	4579.3	4420.6
30°	4715.3	4692.6	4564.2	4231.7	4110.8
32.5°	4473.5	4435.7	4299.7	3952.1	3853.9
35°	4224.1	4193.9	3989.9	3687.6	3596.9
37.5°	3974.8	3937.0	3680.1	3438.2	3324.9
40°	3725.4	3680.1	3400.5	3181.3	3060.4
42.5°	3491.1	3430.7	3158.7	2924.4	2788.4
45°	3241.8	3173.8	2901.7	2659.9	2554.1
47.5°	2992.4	2932.0	2682.6	2433.2	2312.3
50°	2727.9	2675.0	2448.3	2199.0	2070.5
52.5°	2508.8	2425.7	2206.5	1957.2	1851.4
55°	2251.9	2183.9	1979.8	1745.6	1654.9
57.5°	2017.6	1949.6	1760.7	1541.5	1466.0
60°	1798.5	1700.2	1541.5	1352.6	1292.2
62.5°	1556.7	1481.1	1345.1	1186.4	1262.0
65°	1337.5	1262.0	1141.0	1163.7	967.2
67.5°	1095.7	1057.9	952.1	846.3	816.1
70°	891.7	846.3	808.6	695.2	665.0
72.5°	710.3	665.0	612.1	551.6	529.0
75°	536.5	498.7	468.5	445.8	491.2
77.5°	370.3	355.2	332.5	309.8	302.3
80°	241.8	234.3	226.7	219.1	211.6
82.5°	143.6	143.6	143.6	143.6	143.6
85°	75.6	83.1	90.7	98.2	105.8
87.5°	45.3	45.3	52.9	60.5	68.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)