

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: P563964

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563964  
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-LD4-4LO-50-UNV-80-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

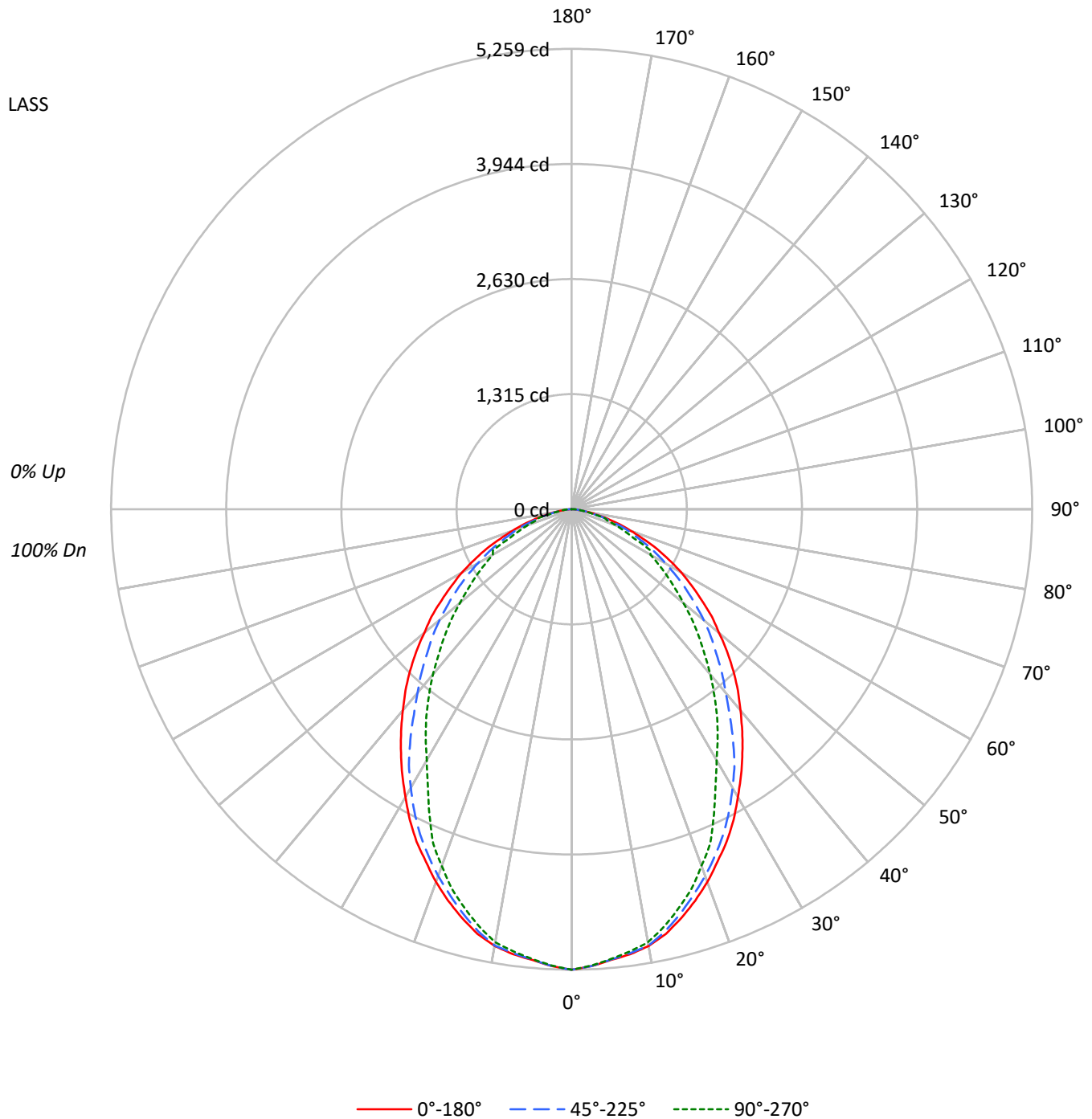
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10325.0 lumens  
Efficiency: N/A  
Efficacy: 110.3 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): 93.6  
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	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°	7076	7076	7076
5°	6980	6972	6964
10°	6920	6912	6862
15°	6733	6666	6572
20°	6486	6381	6207
25°	6219	6084	5705
30°	5895	5706	5139
35°	5583	5273	4754
40°	5265	4806	4325
45°	4963	4443	3910
50°	4595	4124	3487
55°	4250	3737	3124
60°	3894	3338	2798
65°	3426	2923	2478
70°	2823	2559	2105
75°	2244	1960	2054
80°	1508	1413	1319
85°	939	1127	1314

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4963 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	489.6	4.7
10°-20°	1343.6	13.0
20°-30°	1860.1	18.0
30°-40°	1983.5	19.2
40°-50°	1809.5	17.5
50°-60°	1417.6	13.7
60°-70°	923.9	8.9
70°-80°	409.3	4.0
80°-90°	87.9	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°	3693.3	35.8
0°-40°	5676.8	55.0
0°-60°	8903.9	86.2
0°-90°	10325.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10325.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5259	5259	5259	5259	5259	
5°	5168	5162	5162	5156	5156	491
15°	4834	4834	4785	4736	4718	1359
25°	4189	4165	4098	3952	3843	1923
35°	3399	3374	3210	2967	2894	2125
45°	2608	2554	2335	2140	2055	2009
55°	1812	1757	1593	1404	1332	1625
65°	1076	1015	918	936	778	1061
75°	432	401	377	359	395	463
85°	61	67	73	79	85	84
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5259.4	5259.4	5259.4	5259.4	5259.4
2.5°	5222.9	5222.9	5222.9	5216.9	5216.9
5°	5168.2	5162.1	5162.1	5156.1	5156.1
7.5°	5125.7	5119.6	5113.5	5107.4	5095.3
10°	5064.8	5064.8	5058.8	5028.4	5022.3
12.5°	4967.6	4961.5	4937.2	4894.6	4882.4
15°	4833.8	4833.8	4785.2	4736.5	4718.3
17.5°	4687.9	4681.8	4621.0	4572.3	4548.0
20°	4529.8	4517.6	4456.8	4377.8	4335.2
22.5°	4353.5	4353.5	4280.5	4177.1	4134.6
25°	4189.3	4165.0	4098.1	3952.2	3842.7
27.5°	4000.8	3964.3	3891.4	3684.6	3556.9
30°	3794.1	3775.8	3672.5	3404.9	3307.7
32.5°	3599.5	3569.1	3459.7	3180.0	3100.9
35°	3398.9	3374.5	3210.4	2967.2	2894.2
37.5°	3198.2	3167.8	2961.1	2766.5	2675.3
40°	2997.6	2961.1	2736.1	2559.8	2462.5
42.5°	2809.1	2760.4	2541.5	2353.1	2243.6
45°	2608.4	2553.7	2334.8	2140.2	2055.1
47.5°	2407.8	2359.1	2158.5	1957.8	1860.6
50°	2195.0	2152.4	1970.0	1769.4	1666.0
52.5°	2018.6	1951.8	1775.4	1574.8	1489.7
55°	1811.9	1757.2	1593.0	1404.5	1331.6
57.5°	1623.4	1568.7	1416.7	1240.4	1179.6
60°	1447.1	1368.1	1240.4	1088.4	1039.7
62.5°	1252.5	1191.7	1082.3	954.6	1015.4
65°	1076.2	1015.4	918.1	936.4	778.3
67.5°	881.6	851.2	766.1	681.0	656.7
70°	717.5	681.0	650.6	559.4	535.1
72.5°	571.5	535.1	492.5	443.9	425.6
75°	431.7	401.3	377.0	358.7	395.2
77.5°	297.9	285.8	267.5	249.3	243.2
80°	194.6	188.5	182.4	176.3	170.2
82.5°	115.5	115.5	115.5	115.5	115.5
85°	60.8	66.9	73.0	79.0	85.1
87.5°	36.5	36.5	42.6	48.6	54.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)