

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: P563593

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-81-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563593  
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-81-88-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

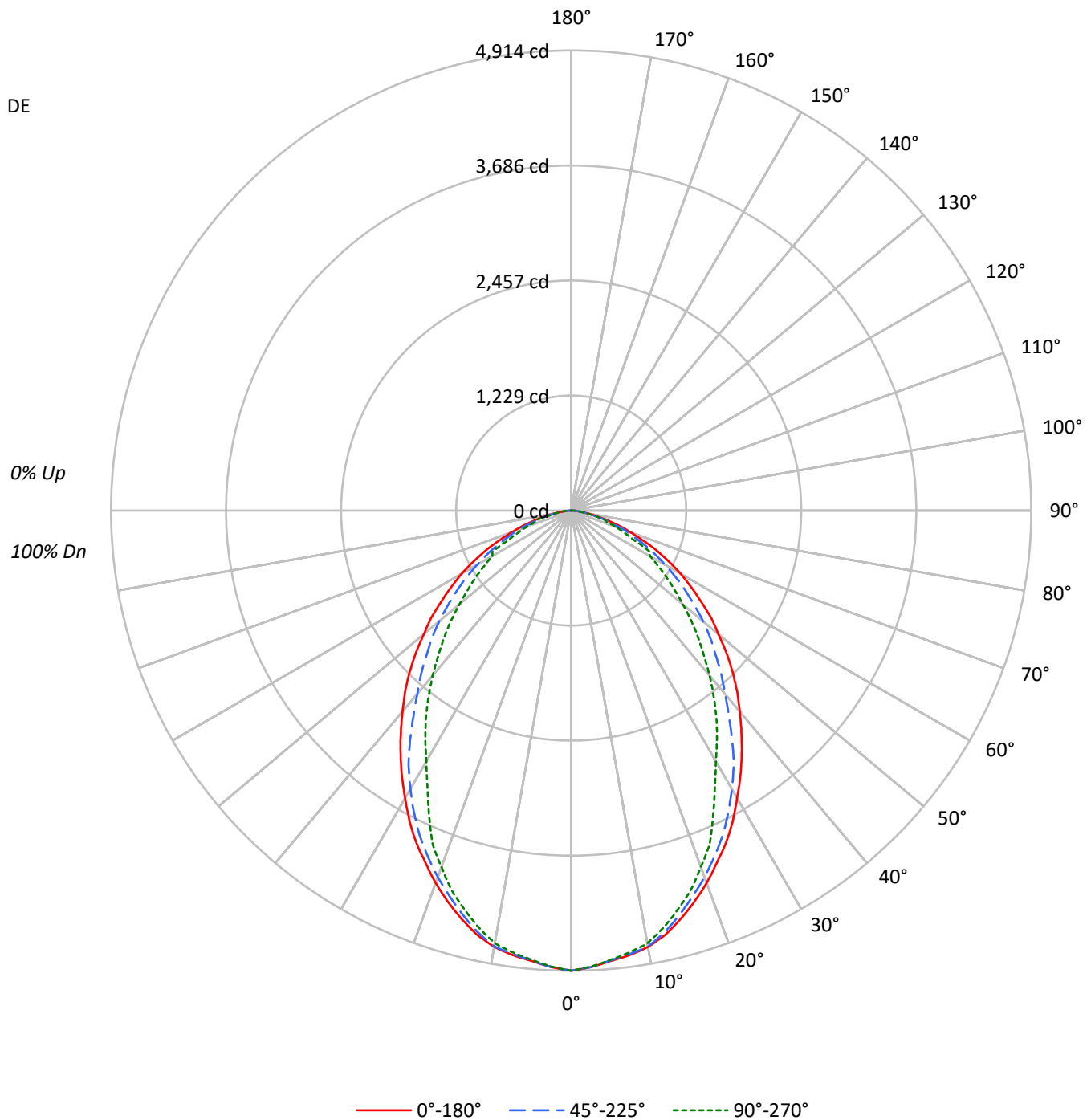
Lumens per Lamp: N/A  
Luminaire Lumens: 9646.0 lumens  
Efficiency: N/A  
Efficacy: 96.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6611	6611	6611
5°	6521	6514	6506
10°	6465	6457	6410
15°	6290	6227	6140
20°	6059	5962	5799
25°	5810	5684	5330
30°	5507	5331	4801
35°	5216	4926	4441
40°	4919	4490	4041
45°	4637	4151	3653
50°	4292	3852	3258
55°	3971	3491	2918
60°	3638	3118	2614
65°	3201	2731	2315
70°	2637	2391	1967
75°	2097	1831	1919
80°	1409	1320	1233
85°	877	1053	1227

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4637 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	457.4	4.7
10°-20°	1255.3	13.0
20°-30°	1737.8	18.0
30°-40°	1853.0	19.2
40°-50°	1690.5	17.5
50°-60°	1324.4	13.7
60°-70°	863.2	8.9
70°-80°	382.4	4.0
80°-90°	82.1	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°	3450.5	35.8
0°-40°	5303.5	55.0
0°-60°	8318.3	86.2
0°-90°	9646.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9646.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4914	4914	4914	4914	4914	
5°	4828	4823	4823	4817	4817	458
15°	4516	4516	4470	4425	4408	1270
25°	3914	3891	3829	3692	3590	1797
35°	3175	3153	2999	2772	2704	1985
45°	2437	2386	2181	2000	1920	1877
55°	1693	1642	1488	1312	1244	1518
65°	1005	949	858	875	727	991
75°	403	375	352	335	369	432
85°	57	62	68	74	80	79
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4913.5	4913.5	4913.5	4913.5	4913.5
2.5°	4879.5	4879.5	4879.5	4873.8	4873.8
5°	4828.3	4822.7	4822.7	4817.0	4817.0
7.5°	4788.6	4782.9	4777.2	4771.5	4760.2
10°	4731.8	4731.8	4726.1	4697.7	4692.0
12.5°	4640.9	4635.2	4612.5	4572.7	4561.4
15°	4515.9	4515.9	4470.5	4425.0	4408.0
17.5°	4379.6	4373.9	4317.1	4271.7	4248.9
20°	4231.9	4220.5	4163.7	4089.9	4050.1
22.5°	4067.2	4067.2	3999.0	3902.4	3862.7
25°	3913.8	3891.1	3828.6	3692.3	3590.0
27.5°	3737.7	3703.6	3635.5	3442.3	3323.0
30°	3544.6	3527.5	3431.0	3181.0	3090.1
32.5°	3362.8	3334.4	3232.1	2970.8	2897.0
35°	3175.3	3152.6	2999.2	2772.0	2703.9
37.5°	2987.9	2959.5	2766.4	2584.6	2499.4
40°	2800.4	2766.4	2556.2	2391.4	2300.6
42.5°	2624.3	2578.9	2374.4	2198.3	2096.1
45°	2436.9	2385.8	2181.3	1999.5	1920.0
47.5°	2249.4	2204.0	2016.5	1829.1	1738.2
50°	2050.6	2010.9	1840.4	1653.0	1556.4
52.5°	1885.9	1823.4	1658.7	1471.2	1391.7
55°	1692.8	1641.6	1488.3	1312.2	1244.0
57.5°	1516.7	1465.5	1323.5	1158.8	1102.0
60°	1351.9	1278.1	1158.8	1016.8	971.3
62.5°	1170.2	1113.4	1011.1	891.8	948.6
65°	1005.4	948.6	857.7	874.8	727.1
67.5°	823.7	795.3	715.7	636.2	613.5
70°	670.3	636.2	607.8	522.6	499.9
72.5°	534.0	499.9	460.1	414.7	397.6
75°	403.3	374.9	352.2	335.1	369.2
77.5°	278.3	267.0	249.9	232.9	227.2
80°	181.8	176.1	170.4	164.7	159.1
82.5°	107.9	107.9	107.9	107.9	107.9
85°	56.8	62.5	68.2	73.8	79.5
87.5°	34.1	34.1	39.8	45.4	51.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)