

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: P563793

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-82-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563793  
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-LD4-4HI-50-UNV-82-84-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

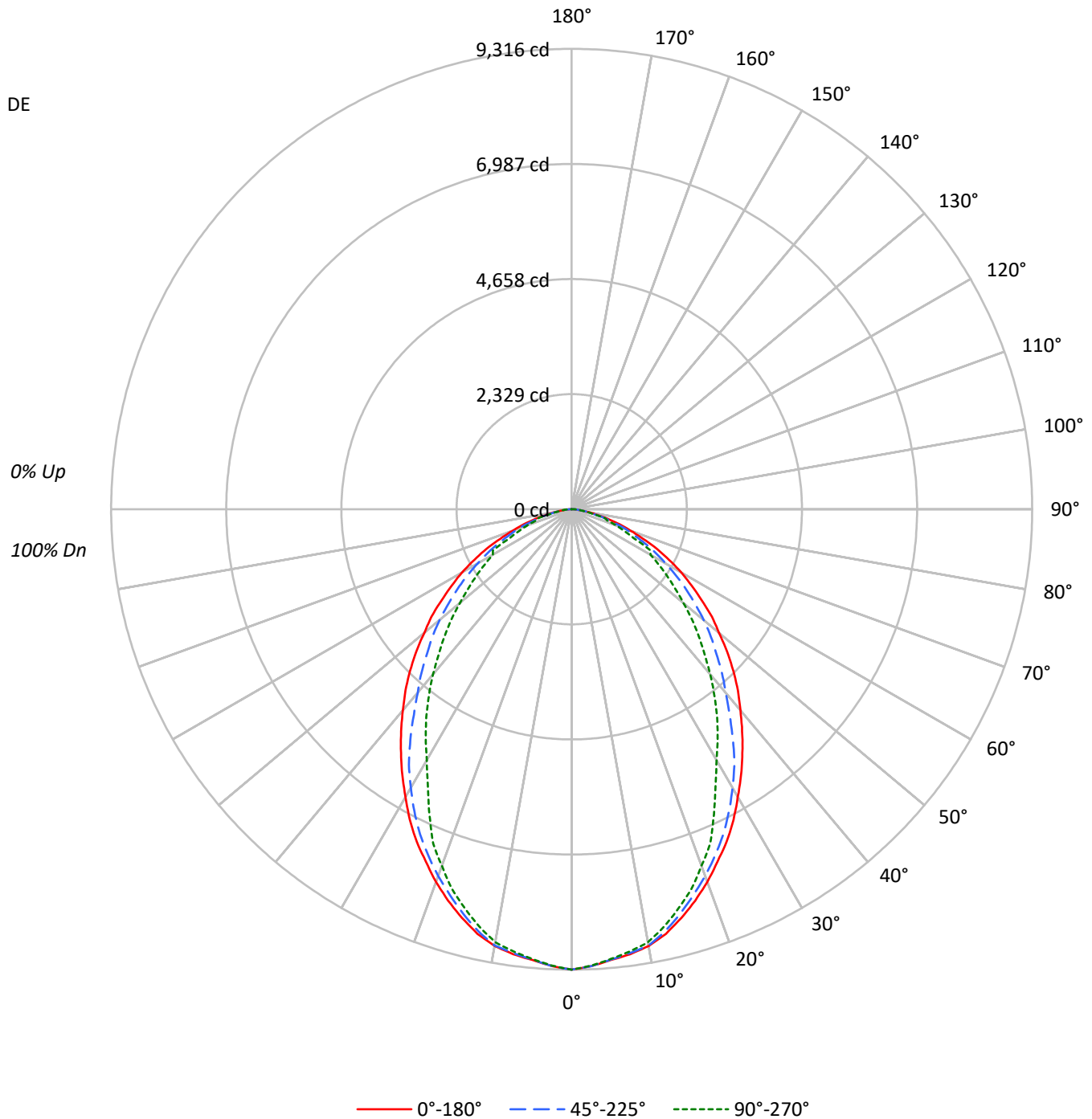
Lumens per Lamp: N/A  
Luminaire Lumens: 18289.0 lumens  
Efficiency: N/A  
Efficacy: 105.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																		
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																												
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°	12535	12535	12535
5°	12364	12350	12335
10°	12257	12243	12154
15°	11927	11807	11642
20°	11489	11304	10995
25°	11016	10777	10105
30°	10441	10107	9103
35°	9889	9340	8421
40°	9326	8513	7661
45°	8792	7869	6927
50°	8138	7304	6177
55°	7529	6619	5533
60°	6898	5912	4956
65°	6069	5178	4389
70°	5000	4533	3729
75°	3975	3471	3640
80°	2670	2503	2337
85°	1663	1995	2328

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8792 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	867.2	4.7
10°-20°	2380.0	13.0
20°-30°	3294.9	18.0
30°-40°	3513.4	19.2
40°-50°	3205.2	17.5
50°-60°	2511.0	13.7
60°-70°	1636.6	8.9
70°-80°	725.1	4.0
80°-90°	155.7	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°	6542.1	35.8
0°-40°	10055.5	55.0
0°-60°	15771.7	86.2
0°-90°	18289.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18289.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9316	9316	9316	9316	9316	
5°	9155	9144	9144	9133	9133	869
15°	8562	8562	8476	8390	8358	2407
25°	7421	7378	7259	7001	6807	3407
35°	6020	5977	5687	5256	5127	3764
45°	4620	4524	4136	3791	3640	3559
55°	3210	3113	2822	2488	2359	2879
65°	1906	1799	1626	1659	1379	1879
75°	765	711	668	635	700	820
85°	108	118	129	140	151	149
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9316.2	9316.2	9316.2	9316.2	9316.2
2.5°	9251.6	9251.6	9251.6	9240.8	9240.8
5°	9154.6	9143.8	9143.8	9133.1	9133.1
7.5°	9079.2	9068.5	9057.7	9046.9	9025.4
10°	8971.5	8971.5	8960.8	8906.9	8896.1
12.5°	8799.2	8788.4	8745.4	8670.0	8648.4
15°	8562.3	8562.3	8476.1	8389.9	8357.6
17.5°	8303.8	8293.0	8185.3	8099.1	8056.1
20°	8023.8	8002.2	7894.5	7754.5	7679.1
22.5°	7711.4	7711.4	7582.2	7399.1	7323.7
25°	7420.6	7377.5	7259.1	7000.6	6806.7
27.5°	7086.8	7022.1	6892.9	6526.7	6300.5
30°	6720.6	6688.3	6505.2	6031.3	5859.0
32.5°	6375.9	6322.1	6128.2	5632.8	5492.8
35°	6020.5	5977.4	5686.6	5255.8	5126.6
37.5°	5665.1	5611.2	5245.1	4900.4	4738.9
40°	5309.7	5245.1	4846.6	4534.2	4361.9
42.5°	4975.8	4889.6	4501.9	4168.0	3974.2
45°	4620.4	4523.5	4135.7	3791.1	3640.3
47.5°	4265.0	4178.8	3823.4	3468.0	3295.7
50°	3888.0	3812.6	3489.5	3134.1	2951.0
52.5°	3575.7	3457.2	3144.9	2789.5	2638.7
55°	3209.5	3112.6	2821.8	2487.9	2358.7
57.5°	2875.6	2778.7	2509.4	2197.1	2089.4
60°	2563.3	2423.3	2197.1	1927.9	1841.7
62.5°	2218.6	2110.9	1917.1	1690.9	1798.6
65°	1906.3	1798.6	1626.3	1658.6	1378.6
67.5°	1561.7	1507.8	1357.0	1206.3	1163.2
70°	1270.9	1206.3	1152.4	990.9	947.8
72.5°	1012.4	947.8	872.4	786.2	753.9
75°	764.7	710.8	667.7	635.4	700.1
77.5°	527.7	506.2	473.9	441.6	430.8
80°	344.6	333.9	323.1	312.3	301.6
82.5°	204.6	204.6	204.6	204.6	204.6
85°	107.7	118.5	129.2	140.0	150.8
87.5°	64.6	64.6	75.4	86.2	96.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)