

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: P563792

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-82-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563792  
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-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

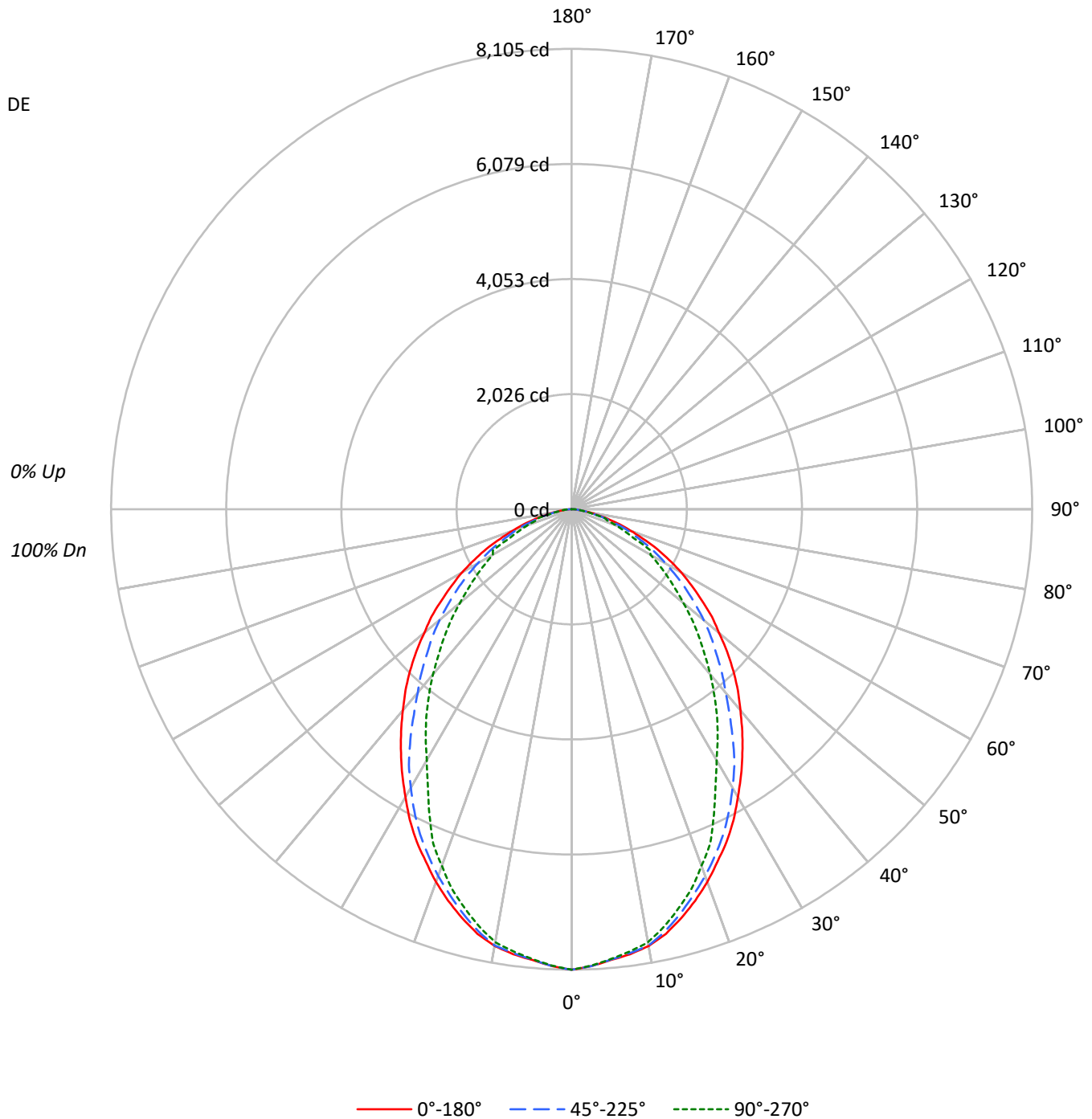
Lumens per Lamp: N/A  
Luminaire Lumens: 15912.0 lumens  
Efficiency: N/A  
Efficacy: 92.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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									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°	10906	10906	10906
5°	10757	10745	10732
10°	10664	10651	10575
15°	10377	10272	10129
20°	9996	9835	9566
25°	9585	9376	8792
30°	9084	8793	7920
35°	8604	8126	7326
40°	8114	7406	6666
45°	7649	6847	6027
50°	7081	6355	5374
55°	6550	5759	4814
60°	6001	5144	4312
65°	5280	4505	3819
70°	4350	3944	3244
75°	3459	3020	3166
80°	2324	2178	2033
85°	1447	1735	2025

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7649 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	754.5	4.7
10°-20°	2070.7	13.0
20°-30°	2866.7	18.0
30°-40°	3056.7	19.2
40°-50°	2788.6	17.5
50°-60°	2184.7	13.7
60°-70°	1423.9	8.9
70°-80°	630.8	4.0
80°-90°	135.4	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°	5691.9	35.8
0°-40°	8748.6	55.0
0°-60°	13721.9	86.2
0°-90°	15912.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15912.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8105	8105	8105	8105	8105	
5°	7965	7955	7955	7946	7946	756
15°	7449	7449	7374	7300	7271	2094
25°	6456	6419	6316	6091	5922	2964
35°	5238	5200	4948	4573	4460	3275
45°	4020	3936	3598	3298	3167	3096
55°	2792	2708	2455	2165	2052	2505
65°	1659	1565	1415	1443	1199	1635
75°	665	618	581	553	609	713
85°	94	103	112	122	131	130
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8105.4	8105.4	8105.4	8105.4	8105.4
2.5°	8049.1	8049.1	8049.1	8039.8	8039.8
5°	7964.8	7955.4	7955.4	7946.1	7946.1
7.5°	7899.2	7889.8	7880.5	7871.1	7852.4
10°	7805.5	7805.5	7796.1	7749.3	7739.9
12.5°	7655.6	7646.2	7608.7	7543.1	7524.4
15°	7449.4	7449.4	7374.5	7299.5	7271.4
17.5°	7224.5	7215.2	7121.5	7046.5	7009.0
20°	6980.9	6962.2	6868.5	6746.7	6681.1
22.5°	6709.2	6709.2	6596.7	6437.4	6371.8
25°	6456.2	6418.7	6315.6	6090.7	5922.1
27.5°	6165.7	6109.5	5997.0	5678.4	5481.7
30°	5847.1	5819.0	5659.7	5247.4	5097.5
32.5°	5547.3	5500.4	5331.7	4900.7	4778.9
35°	5238.0	5200.5	4947.5	4572.7	4460.3
37.5°	4928.8	4882.0	4563.4	4263.5	4123.0
40°	4619.6	4563.4	4216.7	3944.9	3795.0
42.5°	4329.1	4254.1	3916.8	3626.3	3457.7
45°	4019.9	3935.6	3598.2	3298.4	3167.2
47.5°	3710.7	3635.7	3326.5	3017.3	2867.3
50°	3382.7	3317.1	3036.0	2726.8	2567.5
52.5°	3111.0	3007.9	2736.1	2426.9	2295.7
55°	2792.4	2708.0	2455.0	2164.6	2052.1
57.5°	2501.9	2417.6	2183.3	1911.6	1817.8
60°	2230.1	2108.3	1911.6	1677.3	1602.3
62.5°	1930.3	1836.6	1667.9	1471.1	1564.8
65°	1658.6	1564.8	1414.9	1443.0	1199.4
67.5°	1358.7	1311.9	1180.7	1049.5	1012.0
70°	1105.7	1049.5	1002.6	862.1	824.6
72.5°	880.8	824.6	759.0	684.0	655.9
75°	665.3	618.4	581.0	552.9	609.1
77.5°	459.1	440.4	412.3	384.2	374.8
80°	299.9	290.5	281.1	271.7	262.4
82.5°	178.0	178.0	178.0	178.0	178.0
85°	93.7	103.1	112.4	121.8	131.2
87.5°	56.2	56.2	65.6	75.0	84.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)