

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: P563092

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-82-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563092  
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-35-UNV-82-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

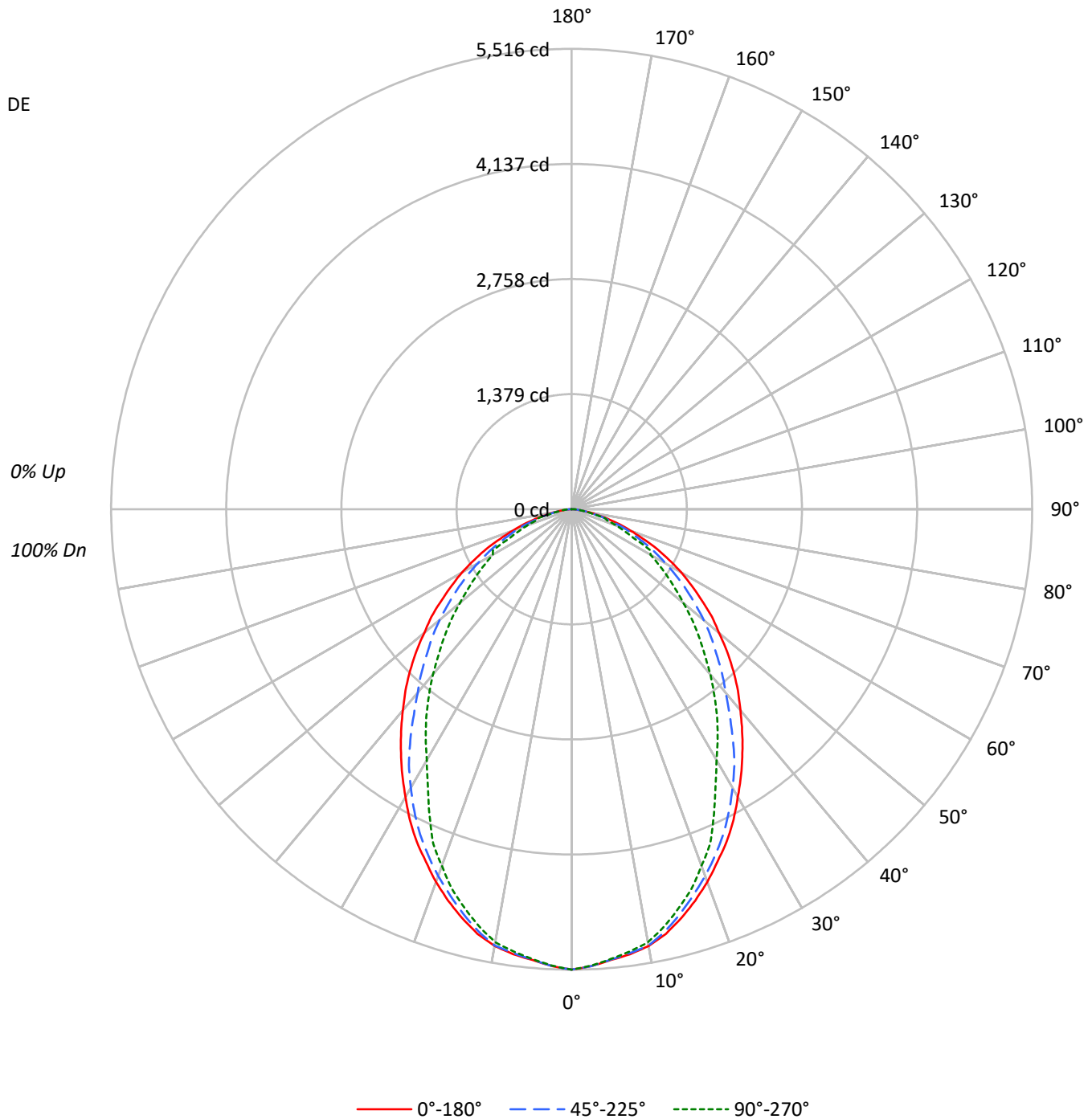
Lumens per Lamp: N/A  
Luminaire Lumens: 10829.0 lumens  
Efficiency: N/A  
Efficacy: 83.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7422	7422	7422
5°	7321	7312	7304
10°	7258	7249	7197
15°	7062	6991	6893
20°	6803	6693	6510
25°	6523	6381	5983
30°	6182	5984	5390
35°	5855	5531	4986
40°	5522	5040	4536
45°	5206	4660	4101
50°	4819	4325	3657
55°	4458	3919	3276
60°	4084	3501	2935
65°	3593	3066	2599
70°	2960	2684	2208
75°	2354	2056	2155
80°	1581	1482	1384
85°	985	1181	1379

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5206 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	513.5	4.7
10°-20°	1409.2	13.0
20°-30°	1950.9	18.0
30°-40°	2080.3	19.2
40°-50°	1897.8	17.5
50°-60°	1486.8	13.7
60°-70°	969.0	8.9
70°-80°	429.3	4.0
80°-90°	92.2	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°	3873.6	35.8
0°-40°	5953.9	55.0
0°-60°	9338.5	86.2
0°-90°	10829.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10829.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5516	5516	5516	5516	5516	
5°	5420	5414	5414	5408	5408	515
15°	5070	5070	5019	4968	4949	1425
25°	4394	4368	4298	4145	4030	2017
35°	3565	3539	3367	3112	3036	2229
45°	2736	2678	2449	2245	2155	2107
55°	1900	1843	1671	1473	1397	1705
65°	1129	1065	963	982	816	1112
75°	453	421	395	376	414	485
85°	64	70	76	83	89	88
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5516.1	5516.1	5516.1	5516.1	5516.1
2.5°	5477.9	5477.9	5477.9	5471.5	5471.5
5°	5420.5	5414.1	5414.1	5407.7	5407.7
7.5°	5375.9	5369.5	5363.1	5356.7	5344.0
10°	5312.1	5312.1	5305.7	5273.8	5267.4
12.5°	5210.0	5203.7	5178.2	5133.5	5120.8
15°	5069.8	5069.8	5018.7	4967.7	4948.6
17.5°	4916.7	4910.3	4846.6	4795.5	4770.0
20°	4750.9	4738.1	4674.4	4591.5	4546.8
22.5°	4566.0	4566.0	4489.4	4381.0	4336.4
25°	4393.8	4368.3	4298.1	4145.1	4030.3
27.5°	4196.1	4157.8	4081.3	3864.5	3730.6
30°	3979.3	3960.1	3851.7	3571.1	3469.1
32.5°	3775.2	3743.3	3628.5	3335.2	3252.3
35°	3564.8	3539.3	3367.1	3112.0	3035.5
37.5°	3354.3	3322.4	3105.6	2901.6	2805.9
40°	3143.9	3105.6	2869.7	2684.7	2582.7
42.5°	2946.2	2895.2	2665.6	2467.9	2353.1
45°	2735.8	2678.4	2448.8	2244.7	2155.4
47.5°	2525.3	2474.3	2263.9	2053.4	1951.4
50°	2302.1	2257.5	2066.2	1855.7	1747.3
52.5°	2117.2	2047.0	1862.1	1651.7	1562.4
55°	1900.4	1843.0	1670.8	1473.1	1396.6
57.5°	1702.7	1645.3	1485.9	1300.9	1237.1
60°	1517.7	1434.8	1300.9	1141.5	1090.5
62.5°	1313.7	1249.9	1135.1	1001.2	1065.0
65°	1128.7	1065.0	962.9	982.1	816.3
67.5°	924.7	892.8	803.5	714.2	688.7
70°	752.5	714.2	682.3	586.7	561.2
72.5°	599.4	561.2	516.5	465.5	446.4
75°	452.8	420.9	395.4	376.2	414.5
77.5°	312.5	299.7	280.6	261.5	255.1
80°	204.1	197.7	191.3	184.9	178.6
82.5°	121.2	121.2	121.2	121.2	121.2
85°	63.8	70.1	76.5	82.9	89.3
87.5°	38.3	38.3	44.6	51.0	57.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)