

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: P563779

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563779  
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-81-85-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

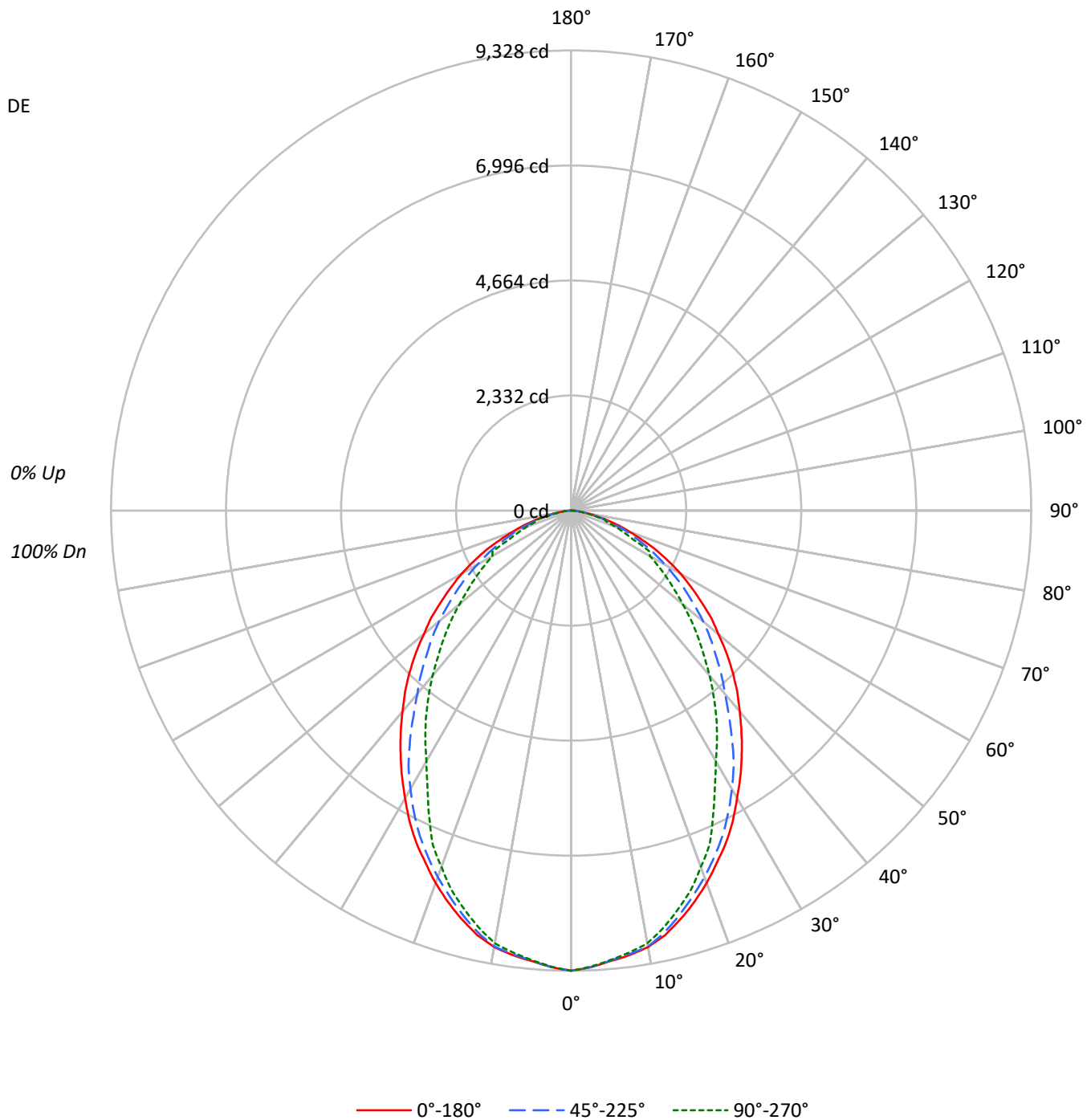
Lumens per Lamp: N/A  
Luminaire Lumens: 18312.0 lumens  
Efficiency: N/A  
Efficacy: 106.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																												
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°	12551	12551	12551
5°	12380	12365	12351
10°	12273	12258	12170
15°	11942	11822	11656
20°	11503	11318	11009
25°	11030	10790	10118
30°	10454	10119	9114
35°	9901	9352	8431
40°	9338	8523	7671
45°	8803	7879	6936
50°	8149	7313	6185
55°	7538	6628	5540
60°	6906	5920	4962
65°	6077	5184	4394
70°	5006	4539	3733
75°	3980	3476	3644
80°	2674	2507	2339
85°	1664	1998	2331

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8803 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	868.3	4.7
10°-20°	2383.0	13.0
20°-30°	3299.1	18.0
30°-40°	3517.8	19.2
40°-50°	3209.2	17.5
50°-60°	2514.2	13.7
60°-70°	1638.6	8.9
70°-80°	726.0	4.0
80°-90°	155.9	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°	6550.4	35.8
0°-40°	10068.1	55.0
0°-60°	15791.5	86.2
0°-90°	18312.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18312.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9328	9328	9328	9328	9328	
5°	9166	9155	9155	9145	9145	870
15°	8573	8573	8487	8400	8368	2410
25°	7430	7387	7268	7009	6815	3411
35°	6028	5985	5694	5262	5133	3769
45°	4626	4529	4141	3796	3645	3564
55°	3214	3116	2825	2491	2362	2882
65°	1909	1801	1628	1661	1380	1881
75°	766	712	669	636	701	821
85°	108	119	129	140	151	150
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9327.9	9327.9	9327.9	9327.9	9327.9
2.5°	9263.2	9263.2	9263.2	9252.4	9252.4
5°	9166.1	9155.3	9155.3	9144.6	9144.6
7.5°	9090.6	9079.9	9069.1	9058.3	9036.7
10°	8982.8	8982.8	8972.0	8918.1	8907.3
12.5°	8810.3	8799.5	8756.4	8680.9	8659.3
15°	8573.0	8573.0	8486.8	8400.5	8368.1
17.5°	8314.2	8303.4	8195.6	8109.3	8066.2
20°	8033.8	8012.3	7904.4	7764.3	7688.8
22.5°	7721.1	7721.1	7591.7	7408.4	7332.9
25°	7430.0	7386.8	7268.2	7009.4	6815.3
27.5°	7095.7	7031.0	6901.6	6534.9	6308.5
30°	6729.0	6696.7	6513.3	6038.9	5866.3
32.5°	6383.9	6330.0	6135.9	5639.9	5499.7
35°	6028.1	5984.9	5693.8	5262.4	5133.0
37.5°	5672.2	5618.3	5251.7	4906.6	4744.8
40°	5316.4	5251.7	4852.7	4539.9	4367.4
42.5°	4982.1	4895.8	4507.6	4173.3	3979.2
45°	4626.2	4529.1	4140.9	3795.9	3644.9
47.5°	4270.3	4184.1	3828.2	3472.3	3299.8
50°	3892.9	3817.4	3493.9	3138.1	2954.7
52.5°	3580.2	3461.6	3148.8	2793.0	2642.0
55°	3213.5	3116.5	2825.3	2491.0	2361.6
57.5°	2879.2	2782.2	2512.6	2199.9	2092.0
60°	2566.5	2426.3	2199.9	1930.3	1844.0
62.5°	2221.4	2113.6	1919.5	1693.0	1800.9
65°	1908.7	1800.9	1628.3	1660.7	1380.3
67.5°	1563.6	1509.7	1358.7	1207.8	1164.6
70°	1272.5	1207.8	1153.9	992.1	949.0
72.5°	1013.7	949.0	873.5	787.2	754.9
75°	765.6	711.7	668.6	636.2	700.9
77.5°	528.4	506.8	474.5	442.1	431.3
80°	345.1	334.3	323.5	312.7	301.9
82.5°	204.9	204.9	204.9	204.9	204.9
85°	107.8	118.6	129.4	140.2	151.0
87.5°	64.7	64.7	75.5	86.3	97.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)