

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: P563219

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-82-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563219  
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-50-UNV-82-85-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

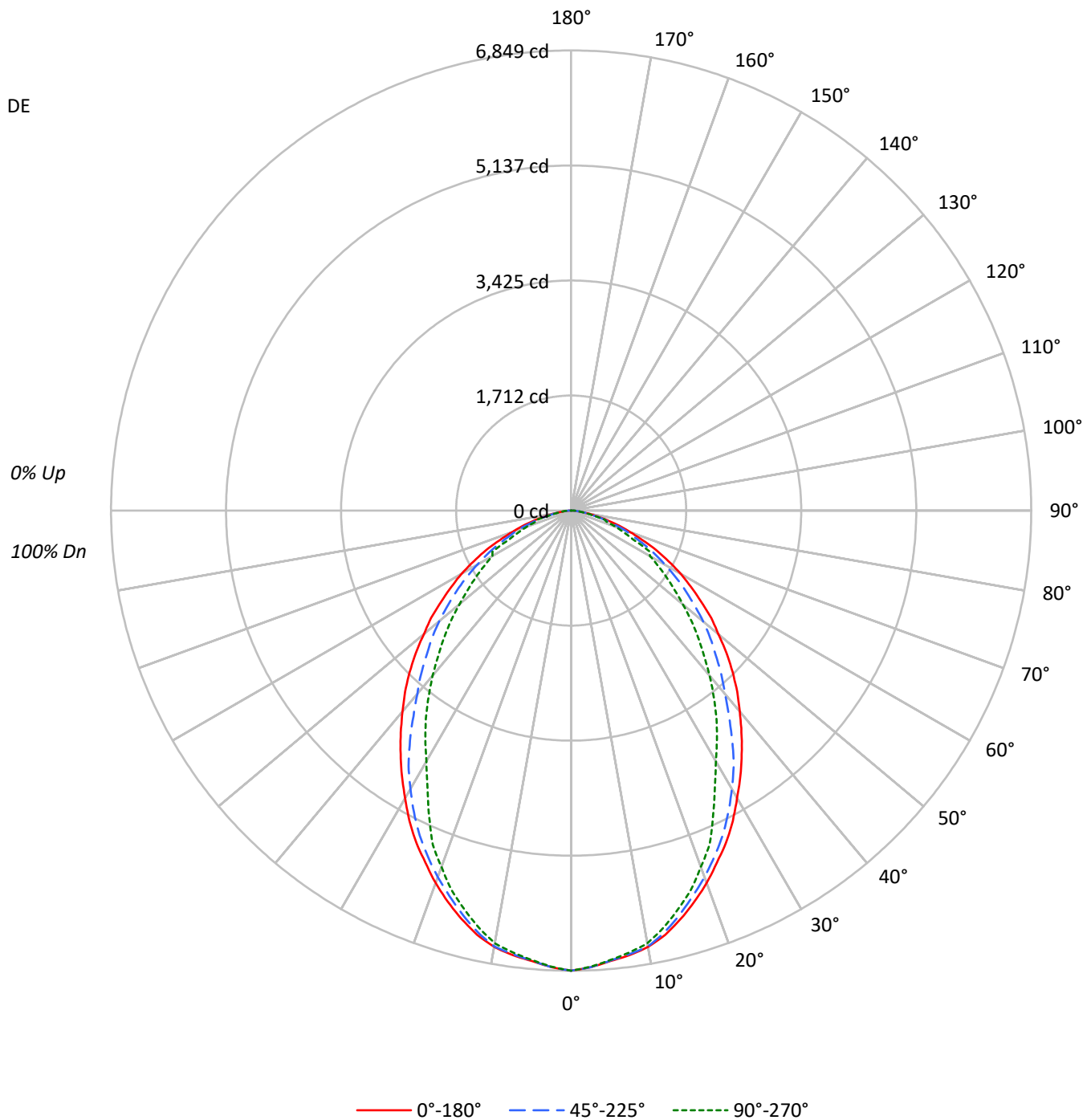
Lumens per Lamp: N/A  
Luminaire Lumens: 13445.0 lumens  
Efficiency: N/A  
Efficacy: 103.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	9215	9215	9215
5°	9090	9079	9068
10°	9011	9000	8935
15°	8768	8680	8558
20°	8446	8310	8083
25°	8099	7922	7429
30°	7676	7430	6692
35°	7270	6867	6190
40°	6856	6258	5632
45°	6463	5785	5092
50°	5983	5370	4541
55°	5535	4866	4067
60°	5071	4346	3643
65°	4462	3806	3226
70°	3675	3333	2741
75°	2922	2552	2675
80°	1963	1840	1718
85°	1223	1467	1711

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6463 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	637.5	4.7
10°-20°	1749.6	13.0
20°-30°	2422.2	18.0
30°-40°	2582.8	19.2
40°-50°	2356.3	17.5
50°-60°	1846.0	13.7
60°-70°	1203.1	8.9
70°-80°	533.0	4.0
80°-90°	114.4	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°	4809.4	35.8
0°-40°	7392.2	55.0
0°-60°	11594.4	86.2
0°-90°	13445.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13445.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6849	6849	6849	6849	6849	
5°	6730	6722	6722	6714	6714	639
15°	6294	6294	6231	6168	6144	1770
25°	5455	5424	5336	5146	5004	2504
35°	4426	4394	4180	3864	3769	2767
45°	3397	3325	3040	2787	2676	2616
55°	2359	2288	2074	1829	1734	2116
65°	1401	1322	1196	1219	1013	1381
75°	562	523	491	467	515	603
85°	79	87	95	103	111	110
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6848.7	6848.7	6848.7	6848.7	6848.7
2.5°	6801.2	6801.2	6801.2	6793.3	6793.3
5°	6729.9	6722.0	6722.0	6714.1	6714.1
7.5°	6674.5	6666.6	6658.7	6650.8	6634.9
10°	6595.3	6595.3	6587.4	6547.8	6539.9
12.5°	6468.7	6460.7	6429.1	6373.6	6357.8
15°	6294.5	6294.5	6231.1	6167.8	6144.0
17.5°	6104.5	6096.5	6017.4	5954.0	5922.3
20°	5898.6	5882.8	5803.6	5700.7	5645.2
22.5°	5669.0	5669.0	5574.0	5439.4	5384.0
25°	5455.2	5423.5	5336.4	5146.4	5003.9
27.5°	5209.8	5162.3	5067.2	4798.1	4631.8
30°	4940.6	4916.8	4782.2	4433.8	4307.2
32.5°	4687.2	4647.6	4505.1	4140.9	4038.0
35°	4425.9	4394.3	4180.5	3863.8	3768.8
37.5°	4164.6	4125.1	3855.9	3602.5	3483.7
40°	3903.4	3855.9	3562.9	3333.3	3206.6
42.5°	3657.9	3594.6	3309.5	3064.1	2921.6
45°	3396.6	3325.4	3040.3	2787.0	2676.1
47.5°	3135.4	3072.0	2810.7	2549.5	2422.8
50°	2858.2	2802.8	2565.3	2304.0	2169.4
52.5°	2628.6	2541.5	2311.9	2050.7	1939.8
55°	2359.4	2288.2	2074.4	1829.0	1733.9
57.5°	2114.0	2042.7	1844.8	1615.2	1536.0
60°	1884.4	1781.5	1615.2	1417.2	1353.9
62.5°	1631.0	1551.8	1409.3	1243.1	1322.2
65°	1401.4	1322.2	1195.6	1219.3	1013.4
67.5°	1148.0	1108.5	997.6	886.8	855.1
70°	934.3	886.8	847.2	728.4	696.7
72.5°	744.3	696.7	641.3	578.0	554.2
75°	562.1	522.6	490.9	467.1	514.6
77.5°	388.0	372.1	348.4	324.6	316.7
80°	253.4	245.4	237.5	229.6	221.7
82.5°	150.4	150.4	150.4	150.4	150.4
85°	79.2	87.1	95.0	102.9	110.8
87.5°	47.5	47.5	55.4	63.3	71.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)