

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: P562134

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-82-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562134  
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-LD4-1HI-50-UNV-82-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

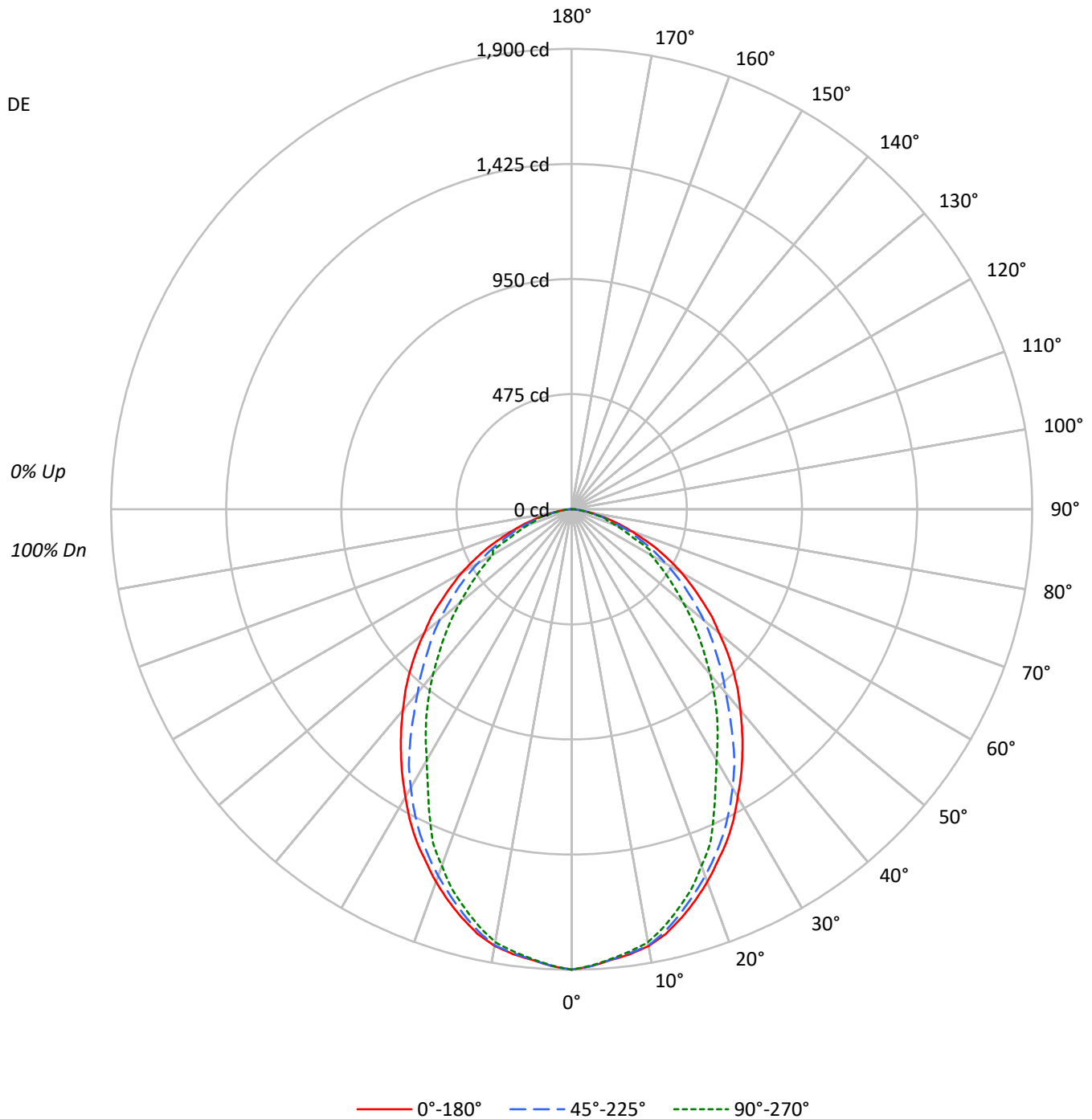
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3730.0 lumens  
Efficiency: N/A  
Efficacy: 86.3 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): 43.2  
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°	2556	2556	2556
5°	2522	2519	2516
10°	2500	2497	2479
15°	2433	2408	2374
20°	2343	2305	2242
25°	2247	2198	2061
30°	2129	2061	1856
35°	2017	1905	1717
40°	1902	1736	1563
45°	1793	1605	1413
50°	1660	1490	1260
55°	1536	1350	1128
60°	1407	1206	1011
65°	1238	1056	895
70°	1020	924	760
75°	811	708	742
80°	545	511	477
85°	340	408	475

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1793 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	176.9	4.7
10°-20°	485.4	13.0
20°-30°	672.0	18.0
30°-40°	716.5	19.2
40°-50°	653.7	17.5
50°-60°	512.1	13.7
60°-70°	333.8	8.9
70°-80°	147.9	4.0
80°-90°	31.8	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°	1334.2	35.8
0°-40°	2050.8	55.0
0°-60°	3216.6	86.2
0°-90°	3730.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3730.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1900	1900	1900	1900	1900	
5°	1867	1865	1865	1863	1863	177
15°	1746	1746	1729	1711	1704	491
25°	1513	1505	1480	1428	1388	695
35°	1228	1219	1160	1072	1046	768
45°	942	922	844	773	742	726
55°	655	635	576	507	481	587
65°	389	367	332	338	281	383
75°	156	145	136	130	143	167
85°	22	24	26	29	31	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1900.0	1900.0	1900.0	1900.0	1900.0
2.5°	1886.8	1886.8	1886.8	1884.6	1884.6
5°	1867.1	1864.9	1864.9	1862.7	1862.7
7.5°	1851.7	1849.5	1847.3	1845.1	1840.7
10°	1829.7	1829.7	1827.5	1816.5	1814.3
12.5°	1794.6	1792.4	1783.6	1768.2	1763.8
15°	1746.3	1746.3	1728.7	1711.1	1704.5
17.5°	1693.5	1691.3	1669.4	1651.8	1643.0
20°	1636.4	1632.0	1610.1	1581.5	1566.1
22.5°	1572.7	1572.7	1546.4	1509.0	1493.7
25°	1513.4	1504.6	1480.5	1427.8	1388.2
27.5°	1445.3	1432.1	1405.8	1331.1	1285.0
30°	1370.6	1364.1	1326.7	1230.1	1194.9
32.5°	1300.4	1289.4	1249.8	1148.8	1120.2
35°	1227.9	1219.1	1159.8	1071.9	1045.6
37.5°	1155.4	1144.4	1069.7	999.4	966.5
40°	1082.9	1069.7	988.4	924.7	889.6
42.5°	1014.8	997.2	918.2	850.1	810.5
45°	942.3	922.5	843.5	773.2	742.4
47.5°	869.8	852.3	779.8	707.3	672.1
50°	793.0	777.6	711.7	639.2	601.9
52.5°	729.3	705.1	641.4	568.9	538.2
55°	654.6	634.8	575.5	507.4	481.0
57.5°	586.5	566.7	511.8	448.1	426.1
60°	522.8	494.2	448.1	393.2	375.6
62.5°	452.5	430.5	391.0	344.9	366.8
65°	388.8	366.8	331.7	338.3	281.2
67.5°	318.5	307.5	276.8	246.0	237.2
70°	259.2	246.0	235.0	202.1	193.3
72.5°	206.5	193.3	177.9	160.3	153.8
75°	156.0	145.0	136.2	129.6	142.8
77.5°	107.6	103.2	96.6	90.1	87.9
80°	70.3	68.1	65.9	63.7	61.5
82.5°	41.7	41.7	41.7	41.7	41.7
85°	22.0	24.2	26.4	28.6	30.8
87.5°	13.2	13.2	15.4	17.6	19.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)