

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: P562435

Luminaire Tested: FSR-24-4-LD4-1STD-50-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562435  
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-LD4-1STD-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**

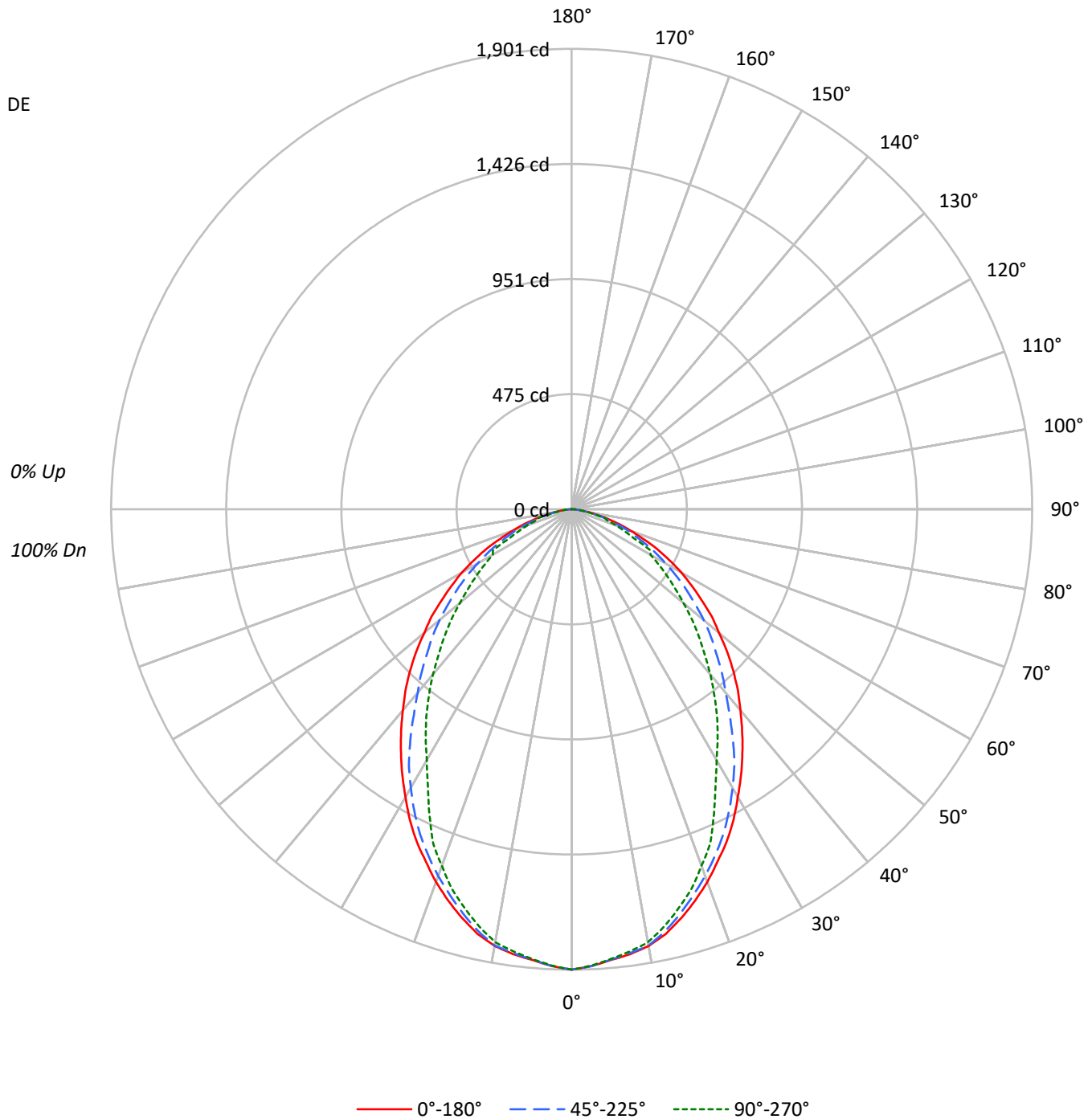
Lumens per Lamp: N/A  
Luminaire Lumens: 3732.0 lumens  
Efficiency: N/A  
Efficacy: 112.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2558	2558	2558
5°	2523	2520	2517
10°	2501	2498	2480
15°	2434	2409	2376
20°	2344	2307	2244
25°	2248	2199	2062
30°	2131	2062	1858
35°	2018	1906	1718
40°	1903	1737	1563
45°	1794	1606	1413
50°	1661	1491	1261
55°	1536	1351	1129
60°	1408	1206	1011
65°	1238	1057	896
70°	1020	925	761
75°	811	709	743
80°	545	511	477
85°	340	408	475

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1794 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	177.0	4.7
10°-20°	485.7	13.0
20°-30°	672.4	18.0
30°-40°	716.9	19.2
40°-50°	654.0	17.5
50°-60°	512.4	13.7
60°-70°	333.9	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°	1335.0	35.8
0°-40°	2051.9	55.0
0°-60°	3218.3	86.2
0°-90°	3732.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3732.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1901	1901	1901	1901	1901	
5°	1868	1866	1866	1864	1864	177
15°	1747	1747	1730	1712	1705	491
25°	1514	1505	1481	1428	1389	695
35°	1228	1220	1160	1072	1046	768
45°	943	923	844	774	743	726
55°	655	635	576	508	481	587
65°	389	367	332	338	281	383
75°	156	145	136	130	143	167
85°	22	24	26	29	31	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1901.0	1901.0	1901.0	1901.0	1901.0
2.5°	1887.8	1887.8	1887.8	1885.6	1885.6
5°	1868.1	1865.9	1865.9	1863.7	1863.7
7.5°	1852.7	1850.5	1848.3	1846.1	1841.7
10°	1830.7	1830.7	1828.5	1817.5	1815.3
12.5°	1795.5	1793.3	1784.6	1769.2	1764.8
15°	1747.2	1747.2	1729.6	1712.0	1705.4
17.5°	1694.4	1692.2	1670.3	1652.7	1643.9
20°	1637.3	1632.9	1610.9	1582.4	1567.0
22.5°	1573.6	1573.6	1547.2	1509.8	1494.5
25°	1514.2	1505.4	1481.3	1428.5	1389.0
27.5°	1446.1	1432.9	1406.5	1331.8	1285.7
30°	1371.4	1364.8	1327.4	1230.7	1195.6
32.5°	1301.1	1290.1	1250.5	1149.4	1120.8
35°	1228.5	1219.7	1160.4	1072.5	1046.1
37.5°	1156.0	1145.0	1070.3	1000.0	967.0
40°	1083.5	1070.3	989.0	925.2	890.1
42.5°	1015.3	997.8	918.6	850.5	811.0
45°	942.8	923.0	843.9	773.6	742.8
47.5°	870.3	852.7	780.2	707.7	672.5
50°	793.4	778.0	712.1	639.5	602.2
52.5°	729.6	705.5	641.7	569.2	538.4
55°	654.9	635.1	575.8	507.7	481.3
57.5°	586.8	567.0	512.1	448.3	426.4
60°	523.1	494.5	448.3	393.4	375.8
62.5°	452.7	430.8	391.2	345.0	367.0
65°	389.0	367.0	331.9	338.4	281.3
67.5°	318.7	307.7	276.9	246.1	237.4
70°	259.3	246.1	235.2	202.2	193.4
72.5°	206.6	193.4	178.0	160.4	153.8
75°	156.0	145.0	136.3	129.7	142.9
77.5°	107.7	103.3	96.7	90.1	87.9
80°	70.3	68.1	65.9	63.7	61.5
82.5°	41.8	41.8	41.8	41.8	41.8
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)