

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: P562953

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-81-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562953  
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-LD4-2STD-40-UNV-81-88-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

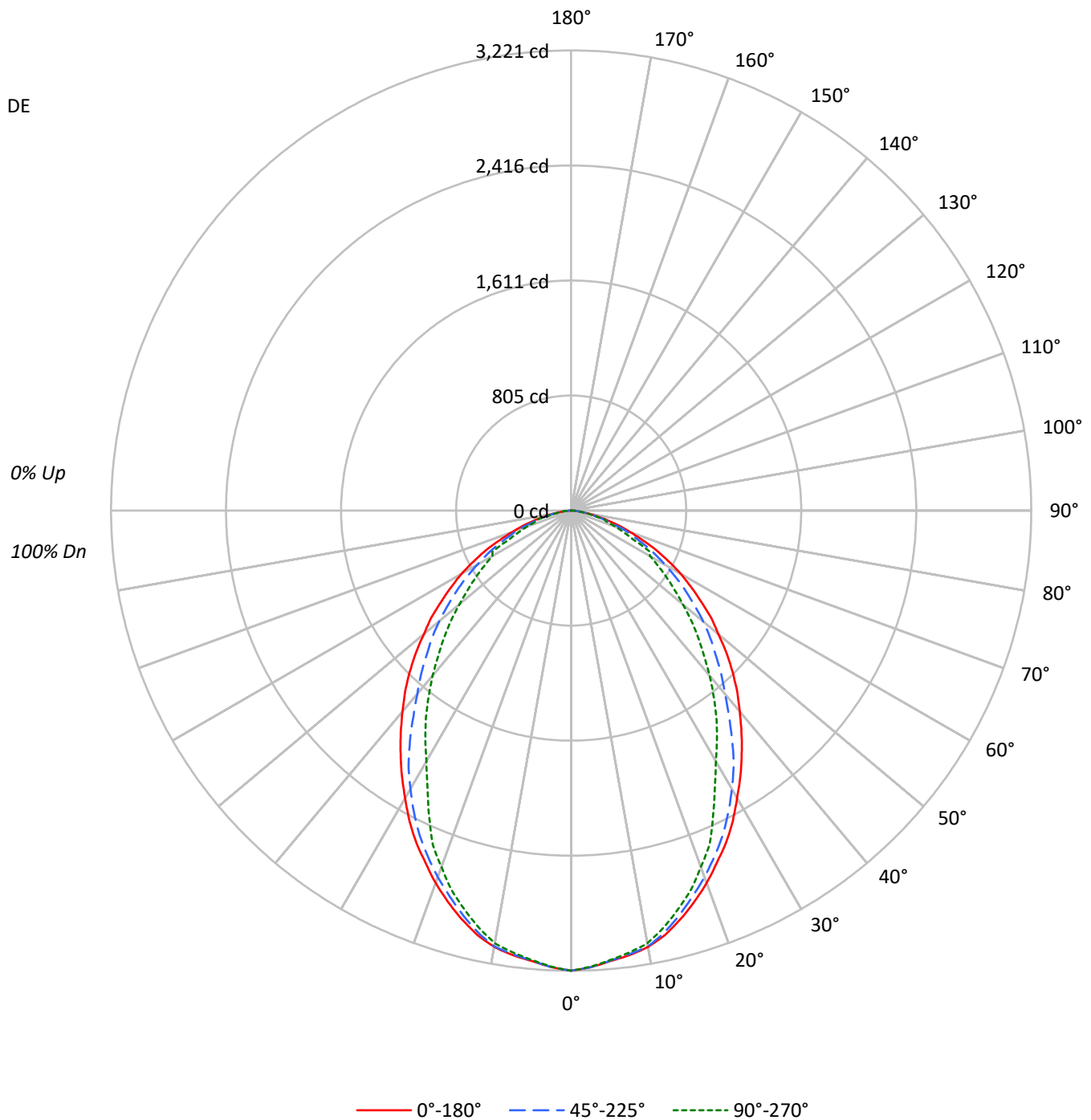
Lumens per Lamp: N/A  
Luminaire Lumens: 6323.0 lumens  
Efficiency: N/A  
Efficacy: 94.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4334	4334	4334
5°	4275	4270	4265
10°	4238	4233	4202
15°	4123	4082	4025
20°	3972	3908	3801
25°	3809	3726	3494
30°	3610	3494	3147
35°	3419	3229	2911
40°	3224	2943	2649
45°	3040	2721	2395
50°	2814	2525	2135
55°	2603	2289	1913
60°	2385	2044	1713
65°	2098	1790	1517
70°	1729	1567	1289
75°	1375	1200	1258
80°	924	865	808
85°	574	690	804

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3040 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	299.8	4.7
10°-20°	822.8	13.0
20°-30°	1139.1	18.0
30°-40°	1214.7	19.2
40°-50°	1108.1	17.5
50°-60°	868.1	13.7
60°-70°	565.8	8.9
70°-80°	250.7	4.0
80°-90°	53.8	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°	2261.8	35.8
0°-40°	3476.5	55.0
0°-60°	5452.7	86.2
0°-90°	6323.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6323.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3221	3221	3221	3221	3221	
5°	3165	3161	3161	3158	3158	300
15°	2960	2960	2930	2901	2890	832
25°	2566	2551	2510	2420	2353	1178
35°	2082	2067	1966	1817	1772	1301
45°	1597	1564	1430	1311	1259	1230
55°	1110	1076	976	860	816	995
65°	659	622	562	573	477	650
75°	264	246	231	220	242	283
85°	37	41	45	48	52	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3220.9	3220.9	3220.9	3220.9	3220.9
2.5°	3198.5	3198.5	3198.5	3194.8	3194.8
5°	3165.0	3161.3	3161.3	3157.6	3157.6
7.5°	3138.9	3135.2	3131.5	3127.8	3120.3
10°	3101.7	3101.7	3098.0	3079.4	3075.6
12.5°	3042.1	3038.4	3023.5	2997.4	2990.0
15°	2960.2	2960.2	2930.4	2900.6	2889.5
17.5°	2870.8	2867.1	2829.9	2800.1	2785.2
20°	2774.0	2766.6	2729.3	2680.9	2654.9
22.5°	2666.0	2666.0	2621.4	2558.1	2532.0
25°	2565.5	2550.6	2509.7	2420.3	2353.3
27.5°	2450.1	2427.7	2383.1	2256.5	2178.3
30°	2323.5	2312.3	2249.0	2085.2	2025.6
32.5°	2204.3	2185.7	2118.7	1947.4	1899.0
35°	2081.5	2066.6	1966.0	1817.1	1772.4
37.5°	1958.6	1940.0	1813.4	1694.2	1638.4
40°	1835.7	1813.4	1675.6	1567.6	1508.0
42.5°	1720.3	1690.5	1556.4	1441.0	1374.0
45°	1597.4	1563.9	1429.8	1310.7	1258.6
47.5°	1474.5	1444.7	1321.9	1199.0	1139.4
50°	1344.2	1318.1	1206.4	1083.5	1020.2
52.5°	1236.2	1195.3	1087.3	964.4	912.3
55°	1109.6	1076.1	975.6	860.1	815.5
57.5°	994.2	960.7	867.6	759.6	722.4
60°	886.2	837.8	759.6	666.5	636.7
62.5°	767.0	729.8	662.8	584.6	621.8
65°	659.1	621.8	562.3	573.4	476.6
67.5°	539.9	521.3	469.2	417.0	402.1
70°	439.4	417.0	398.4	342.6	327.7
72.5°	350.0	327.7	301.6	271.8	260.6
75°	264.4	245.8	230.9	219.7	242.0
77.5°	182.5	175.0	163.8	152.7	148.9
80°	119.2	115.4	111.7	108.0	104.3
82.5°	70.7	70.7	70.7	70.7	70.7
85°	37.2	41.0	44.7	48.4	52.1
87.5°	22.3	22.3	26.1	29.8	33.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)