

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: P563268

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-81-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563268  
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-LD4-3LO-35-UNV-81-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

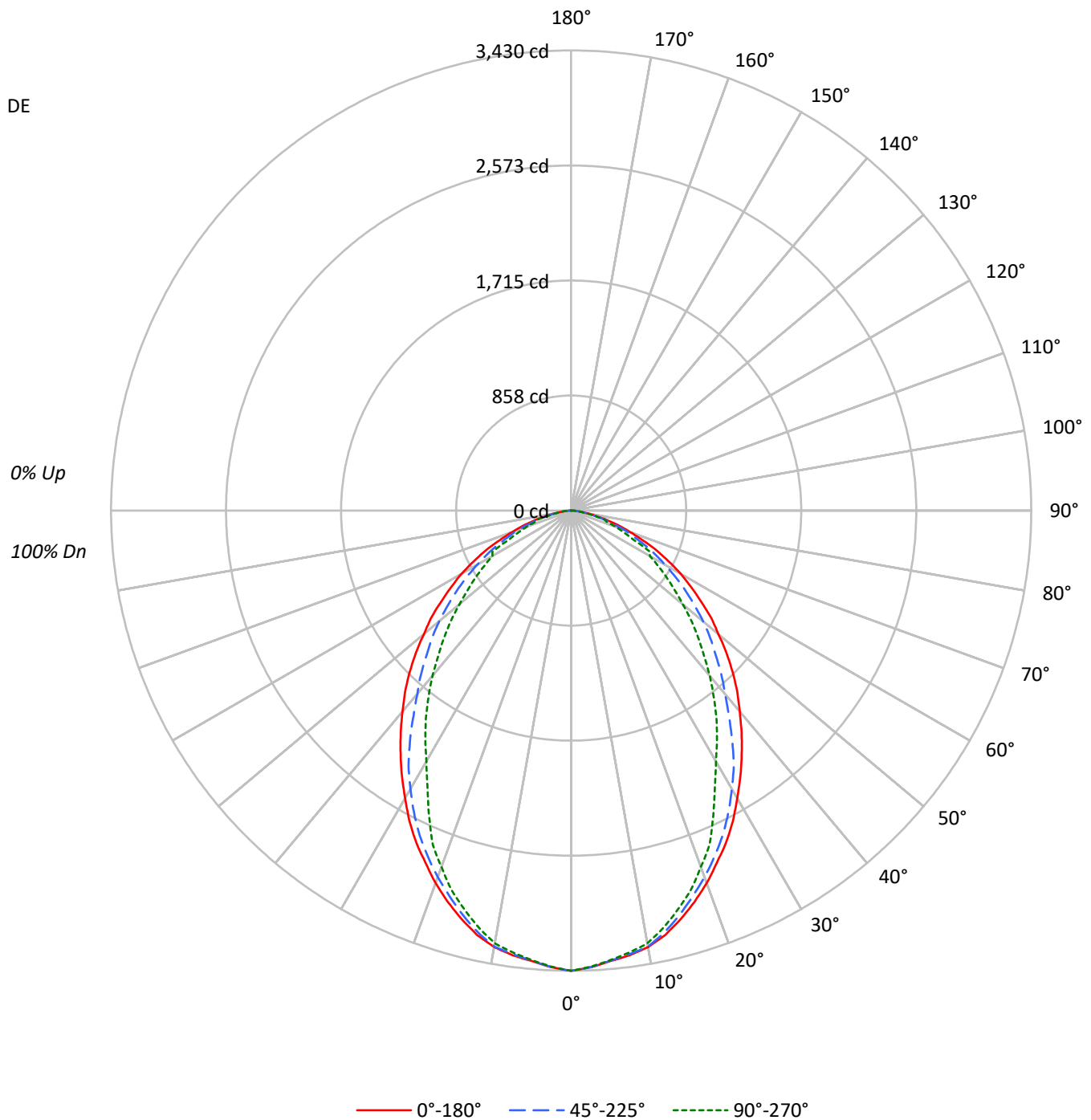
Lumens per Lamp: N/A  
Luminaire Lumens: 6734.0 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4615	4615	4615
5°	4553	4547	4542
10°	4513	4508	4475
15°	4391	4347	4287
20°	4230	4162	4048
25°	4056	3968	3721
30°	3844	3721	3352
35°	3641	3439	3100
40°	3434	3134	2821
45°	3237	2898	2551
50°	2997	2689	2274
55°	2772	2437	2037
60°	2540	2177	1825
65°	2235	1906	1616
70°	1841	1669	1373
75°	1464	1278	1340
80°	983	922	860
85°	613	735	857

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3237 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	319.3	4.7
10°-20°	876.3	13.0
20°-30°	1213.2	18.0
30°-40°	1293.6	19.2
40°-50°	1180.2	17.5
50°-60°	924.6	13.7
60°-70°	602.6	8.9
70°-80°	267.0	4.0
80°-90°	57.3	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°	2408.8	35.8
0°-40°	3702.4	55.0
0°-60°	5807.1	86.2
0°-90°	6734.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6734.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3430	3430	3430	3430	3430	
5°	3371	3367	3367	3363	3363	320
15°	3153	3153	3121	3089	3077	886
25°	2732	2716	2673	2578	2506	1254
35°	2217	2201	2094	1935	1888	1386
45°	1701	1666	1523	1396	1340	1310
55°	1182	1146	1039	916	868	1060
65°	702	662	599	611	508	692
75°	282	262	246	234	258	302
85°	40	44	48	52	56	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3430.2	3430.2	3430.2	3430.2	3430.2
2.5°	3406.4	3406.4	3406.4	3402.5	3402.5
5°	3370.7	3366.8	3366.8	3362.8	3362.8
7.5°	3343.0	3339.0	3335.0	3331.1	3323.1
10°	3303.3	3303.3	3299.3	3279.5	3275.6
12.5°	3239.9	3235.9	3220.0	3192.3	3184.3
15°	3152.6	3152.6	3120.9	3089.2	3077.3
17.5°	3057.4	3053.5	3013.8	2982.1	2966.2
20°	2954.3	2946.4	2906.8	2855.2	2827.4
22.5°	2839.3	2839.3	2791.8	2724.3	2696.6
25°	2732.3	2716.4	2672.8	2577.6	2506.2
27.5°	2609.3	2585.5	2538.0	2403.1	2319.9
30°	2474.5	2462.6	2395.2	2220.7	2157.3
32.5°	2347.6	2327.8	2256.4	2074.0	2022.4
35°	2216.7	2200.9	2093.8	1935.2	1887.6
37.5°	2085.9	2066.1	1931.2	1804.3	1744.8
40°	1955.0	1931.2	1784.5	1669.5	1606.1
42.5°	1832.1	1800.4	1657.6	1534.7	1463.3
45°	1701.2	1665.5	1522.8	1395.9	1340.4
47.5°	1570.4	1538.6	1407.8	1276.9	1213.5
50°	1431.6	1403.8	1284.8	1154.0	1086.6
52.5°	1316.6	1272.9	1157.9	1027.1	971.6
55°	1181.7	1146.0	1039.0	916.0	868.5
57.5°	1058.8	1023.1	924.0	809.0	769.3
60°	943.8	892.3	809.0	709.8	678.1
62.5°	816.9	777.2	705.9	622.6	662.2
65°	701.9	662.2	598.8	610.7	507.6
67.5°	575.0	555.2	499.7	444.1	428.3
70°	467.9	444.1	424.3	364.8	349.0
72.5°	372.8	349.0	321.2	289.5	277.6
75°	281.6	261.7	245.9	234.0	257.8
77.5°	194.3	186.4	174.5	162.6	158.6
80°	126.9	122.9	119.0	115.0	111.0
82.5°	75.3	75.3	75.3	75.3	75.3
85°	39.7	43.6	47.6	51.6	55.5
87.5°	23.8	23.8	27.8	31.7	35.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)