

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: P563356

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-82-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563356  
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-40-UNV-82-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

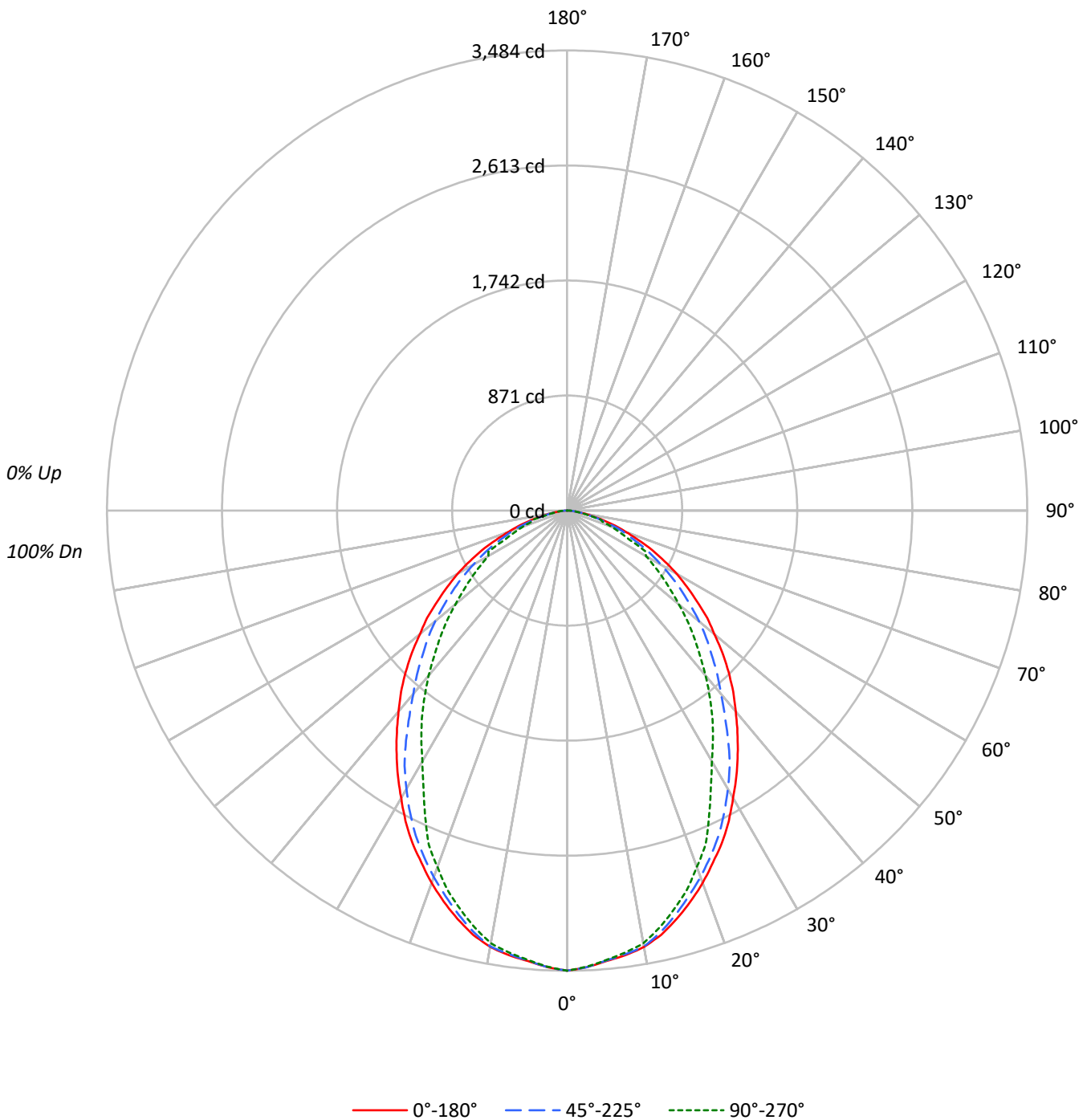
Lumens per Lamp: N/A  
Luminaire Lumens: 6839.0 lumens  
Efficiency: N/A  
Efficacy: 97.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4687	4687	4687
5°	4624	4618	4613
10°	4583	4578	4545
15°	4460	4415	4353
20°	4296	4227	4112
25°	4120	4030	3779
30°	3904	3779	3404
35°	3698	3493	3149
40°	3487	3183	2865
45°	3288	2943	2590
50°	3043	2731	2310
55°	2815	2475	2069
60°	2579	2211	1853
65°	2269	1936	1641
70°	1869	1695	1394
75°	1486	1298	1361
80°	999	936	874
85°	622	746	871

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3288 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	324.3	4.7
10°-20°	890.0	13.0
20°-30°	1232.1	18.0
30°-40°	1313.8	19.2
40°-50°	1198.6	17.5
50°-60°	939.0	13.7
60°-70°	612.0	8.9
70°-80°	271.1	4.0
80°-90°	58.2	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°	2446.4	35.8
0°-40°	3760.2	55.0
0°-60°	5897.7	86.2
0°-90°	6839.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6839.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3484	3484	3484	3484	3484	
5°	3423	3419	3419	3415	3415	325
15°	3202	3202	3170	3137	3125	900
25°	2775	2759	2714	2618	2545	1274
35°	2251	2235	2126	1965	1917	1407
45°	1728	1692	1546	1418	1361	1331
55°	1200	1164	1055	930	882	1076
65°	713	673	608	620	516	702
75°	286	266	250	238	262	306
85°	40	44	48	52	56	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3483.7	3483.7	3483.7	3483.7	3483.7
2.5°	3459.5	3459.5	3459.5	3455.5	3455.5
5°	3423.3	3419.3	3419.3	3415.2	3415.2
7.5°	3395.1	3391.1	3387.0	3383.0	3375.0
10°	3354.8	3354.8	3350.8	3330.7	3326.6
12.5°	3290.4	3286.4	3270.2	3242.1	3234.0
15°	3201.8	3201.8	3169.6	3137.3	3125.3
17.5°	3105.1	3101.1	3060.8	3028.6	3012.5
20°	3000.4	2992.4	2952.1	2899.7	2871.5
22.5°	2883.6	2883.6	2835.3	2766.8	2738.6
25°	2774.9	2758.8	2714.5	2617.8	2545.3
27.5°	2650.0	2625.9	2577.5	2440.6	2356.0
30°	2513.1	2501.0	2432.5	2255.3	2190.9
32.5°	2384.2	2364.1	2291.6	2106.3	2054.0
35°	2251.3	2235.2	2126.5	1965.4	1917.0
37.5°	2118.4	2098.3	1961.3	1832.5	1772.1
40°	1985.5	1961.3	1812.3	1695.5	1631.1
42.5°	1860.7	1828.4	1683.5	1558.6	1486.1
45°	1727.8	1691.5	1546.5	1417.6	1361.3
47.5°	1594.8	1562.6	1429.7	1296.8	1232.4
50°	1453.9	1425.7	1304.9	1172.0	1103.5
52.5°	1337.1	1292.8	1176.0	1043.1	986.7
55°	1200.2	1163.9	1055.2	930.3	882.0
57.5°	1075.3	1039.1	938.4	821.6	781.3
60°	958.5	906.2	821.6	720.9	688.7
62.5°	829.6	789.4	716.9	632.3	672.6
65°	712.8	672.6	608.1	620.2	515.5
67.5°	584.0	563.8	507.5	451.1	435.0
70°	475.2	451.1	430.9	370.5	354.4
72.5°	378.6	354.4	326.2	294.0	281.9
75°	285.9	265.8	249.7	237.6	261.8
77.5°	197.3	189.3	177.2	165.1	161.1
80°	128.9	124.8	120.8	116.8	112.8
82.5°	76.5	76.5	76.5	76.5	76.5
85°	40.3	44.3	48.3	52.4	56.4
87.5°	24.2	24.2	28.2	32.2	36.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)