

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: P563394

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-81-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563394  
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-50-UNV-81-85-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

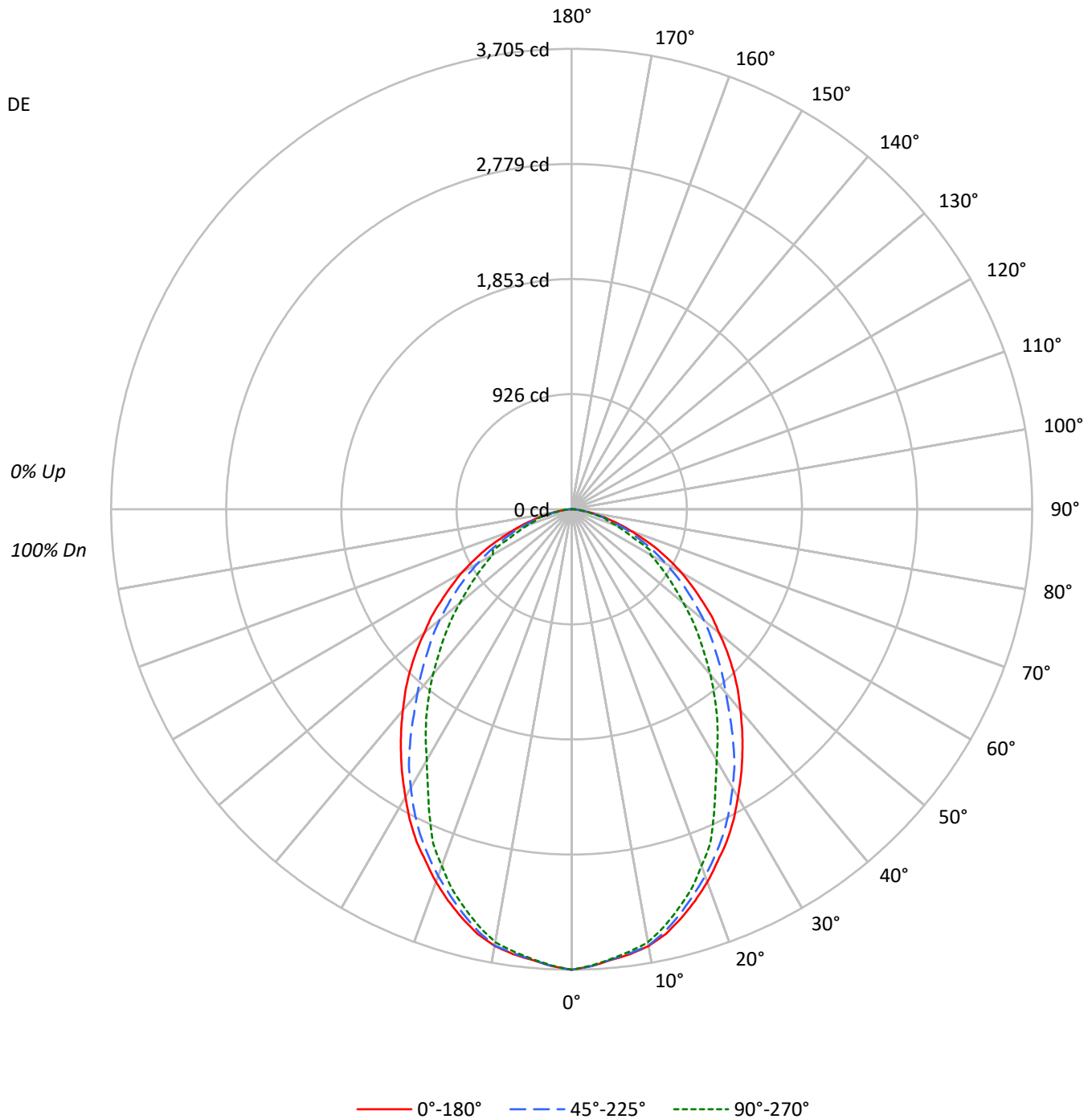
Lumens per Lamp: N/A  
Luminaire Lumens: 7274.0 lumens  
Efficiency: N/A  
Efficacy: 103.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4985	4985	4985
5°	4918	4912	4906
10°	4875	4869	4834
15°	4744	4696	4630
20°	4569	4496	4373
25°	4382	4286	4019
30°	4153	4020	3620
35°	3933	3715	3349
40°	3709	3386	3047
45°	3497	3130	2755
50°	3237	2905	2457
55°	2994	2633	2201
60°	2743	2351	1971
65°	2414	2059	1746
70°	1989	1803	1483
75°	1581	1381	1447
80°	1062	996	929
85°	661	794	926

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3497 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	344.9	4.7
10°-20°	946.6	13.0
20°-30°	1310.5	18.0
30°-40°	1397.3	19.2
40°-50°	1274.8	17.5
50°-60°	998.7	13.7
60°-70°	650.9	8.9
70°-80°	288.4	4.0
80°-90°	61.9	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°	2602.0	35.8
0°-40°	3999.3	55.0
0°-60°	6272.8	86.2
0°-90°	7274.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7274.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3705	3705	3705	3705	3705	
5°	3641	3637	3637	3632	3632	346
15°	3405	3405	3371	3337	3324	957
25°	2951	2934	2887	2784	2707	1355
35°	2394	2377	2262	2090	2039	1497
45°	1838	1799	1645	1508	1448	1416
55°	1276	1238	1122	990	938	1145
65°	758	715	647	660	548	747
75°	304	283	266	253	278	326
85°	43	47	51	56	60	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3705.3	3705.3	3705.3	3705.3	3705.3
2.5°	3679.6	3679.6	3679.6	3675.3	3675.3
5°	3641.0	3636.7	3636.7	3632.5	3632.5
7.5°	3611.0	3606.8	3602.5	3598.2	3589.6
10°	3568.2	3568.2	3563.9	3542.5	3538.2
12.5°	3499.7	3495.4	3478.2	3448.3	3439.7
15°	3405.4	3405.4	3371.2	3336.9	3324.0
17.5°	3302.6	3298.3	3255.5	3221.2	3204.1
20°	3191.3	3182.7	3139.8	3084.2	3054.2
22.5°	3067.0	3067.0	3015.6	2942.8	2912.8
25°	2951.4	2934.2	2887.1	2784.3	2707.2
27.5°	2818.6	2792.9	2741.5	2595.8	2505.9
30°	2672.9	2660.1	2587.3	2398.8	2330.3
32.5°	2535.9	2514.4	2437.3	2240.3	2184.6
35°	2394.5	2377.4	2261.7	2090.4	2039.0
37.5°	2253.2	2231.7	2086.1	1949.0	1884.8
40°	2111.8	2086.1	1927.6	1803.4	1734.8
42.5°	1979.0	1944.7	1790.5	1657.7	1580.6
45°	1837.6	1799.1	1644.9	1507.8	1447.8
47.5°	1696.3	1662.0	1520.7	1379.3	1310.8
50°	1546.4	1516.4	1387.9	1246.5	1173.7
52.5°	1422.1	1375.0	1250.8	1109.4	1049.5
55°	1276.5	1237.9	1122.3	989.5	938.1
57.5°	1143.7	1105.2	998.1	873.8	831.0
60°	1019.5	963.8	873.8	766.8	732.5
62.5°	882.4	839.6	762.5	672.5	715.4
65°	758.2	715.4	646.8	659.7	548.3
67.5°	621.1	599.7	539.7	479.8	462.6
70°	505.5	479.8	458.3	394.1	377.0
72.5°	402.7	377.0	347.0	312.7	299.8
75°	304.1	282.7	265.6	252.7	278.4
77.5°	209.9	201.3	188.5	175.6	171.3
80°	137.1	132.8	128.5	124.2	119.9
82.5°	81.4	81.4	81.4	81.4	81.4
85°	42.8	47.1	51.4	55.7	60.0
87.5°	25.7	25.7	30.0	34.3	38.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)