

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: P590913

Luminaire Tested: FSR-24-2-LD4-4STD-35-UNV-81-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590913  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-4STD-35-UNV-81-88-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

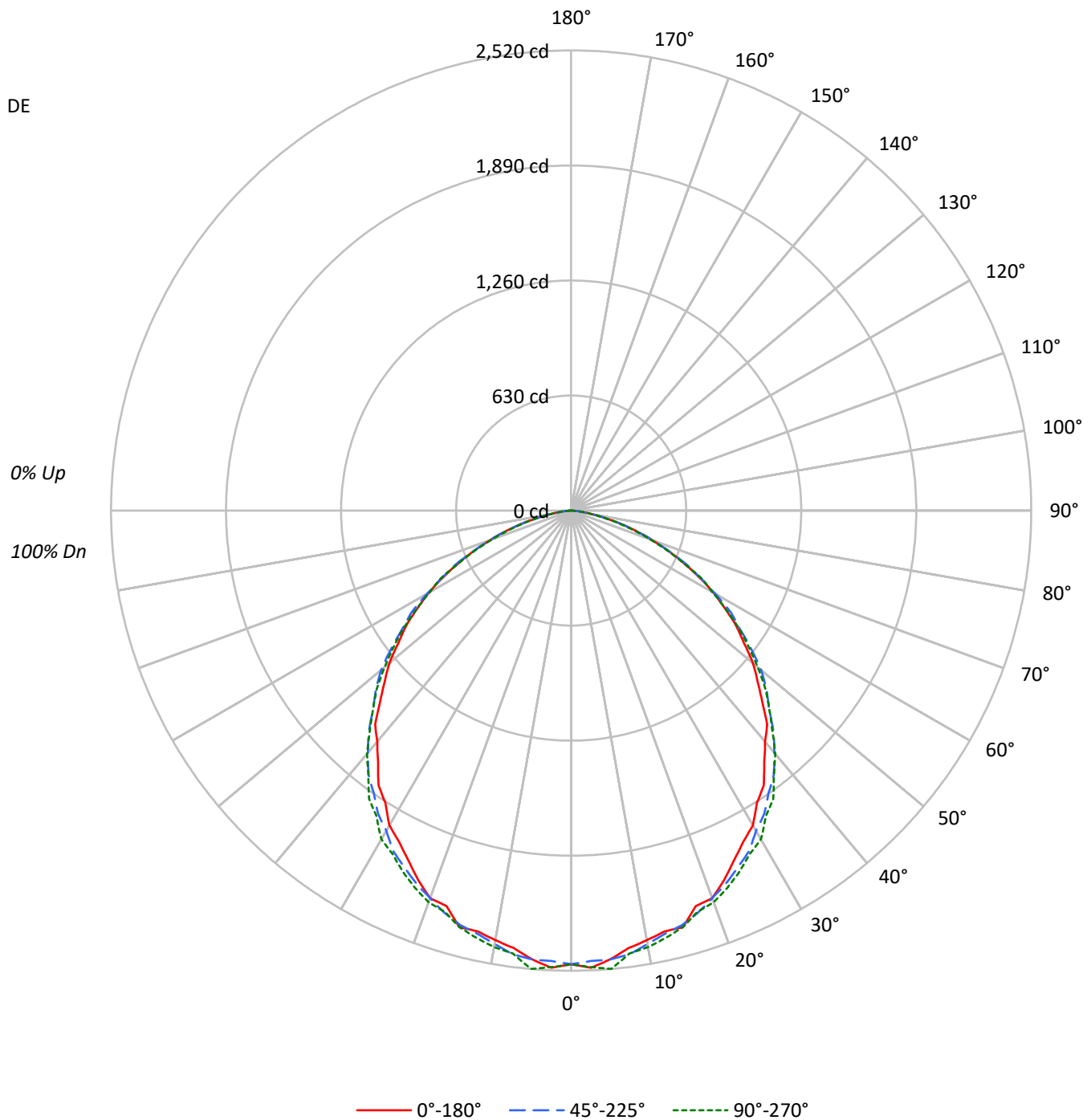
Lumens per Lamp: N/A  
Luminaire Lumens: 6261.0 lumens  
Efficiency: N/A  
Efficacy: 94.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88					86				
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75					73				
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64					62				
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55					53				
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48					46				
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43					41				
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38					36				
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34					32				
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31					29				
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28					26				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6685	6685	6685
5°	6663	6665	6806
10°	6528	6585	6631
15°	6579	6544	6580
20°	6468	6468	6537
25°	6269	6407	6477
30°	6183	6292	6459
35°	6038	6196	6335
40°	5803	6082	6109
45°	5627	5828	5836
50°	5442	5688	5579
55°	5186	5286	5249
60°	4849	4898	4809
65°	4323	4434	4293
70°	3710	3722	3619
75°	2938	2931	2818
80°	1968	1914	1839
85°	1068	1059	991

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5977 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	233.7	3.7
10°-20°	662.3	10.6
20°-30°	992.2	15.8
30°-40°	1176.0	18.8
40°-50°	1178.2	18.8
50°-60°	1000.1	16.0
60°-70°	674.2	10.8
70°-80°	296.3	4.7
80°-90°	48.1	0.8
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°	1888.2	30.2
0°-40°	3064.1	48.9
0°-60°	5242.3	83.7
0°-90°	6261.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6261.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2484	2484	2484	2484	2484	
5°	2467	2461	2468	2460	2520	233
15°	2362	2334	2349	2361	2362	658
25°	2112	2123	2158	2186	2181	976
35°	1838	1843	1886	1930	1928	1141
45°	1479	1506	1531	1571	1534	1144
55°	1105	1098	1127	1119	1119	983
65°	679	670	696	670	674	675
75°	283	277	282	262	271	303
85°	35	34	34	33	32	50
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2484.2	2484.2	2484.2	2484.2	2484.2
2.5°	2505.7	2486.8	2469.1	2489.7	2502.2
5°	2466.6	2460.8	2467.5	2460.2	2519.5
7.5°	2415.9	2438.0	2450.8	2442.8	2446.4
10°	2388.9	2381.2	2409.8	2429.7	2426.8
12.5°	2360.1	2371.6	2373.2	2394.7	2396.6
15°	2361.7	2334.4	2348.9	2361.0	2362.0
17.5°	2269.9	2299.5	2309.4	2337.3	2302.7
20°	2258.7	2237.2	2258.7	2287.3	2282.8
22.5°	2189.8	2165.7	2211.9	2237.2	2235.6
25°	2111.5	2123.0	2157.7	2185.9	2181.4
27.5°	2042.9	2056.3	2105.7	2144.5	2119.5
30°	1989.9	1983.2	2024.9	2059.5	2078.8
32.5°	1895.3	1919.7	1968.4	2002.8	1984.5
35°	1837.9	1843.3	1886.0	1929.6	1928.3
37.5°	1737.5	1762.8	1822.8	1835.0	1823.8
40°	1651.9	1677.2	1731.4	1744.6	1739.1
42.5°	1588.7	1593.2	1639.7	1654.7	1630.7
45°	1478.7	1506.2	1531.3	1570.7	1533.5
47.5°	1385.0	1397.8	1451.7	1462.3	1442.7
50°	1300.0	1304.5	1358.7	1345.5	1332.7
52.5°	1193.2	1212.1	1242.6	1240.0	1224.9
55°	1105.3	1097.9	1126.8	1119.1	1118.8
57.5°	999.8	1012.6	1036.3	1024.2	1004.6
60°	901.0	901.3	910.0	896.2	893.6
62.5°	791.0	794.8	796.7	779.7	807.3
65°	679.0	670.0	696.3	669.7	674.2
67.5°	576.1	580.6	578.0	561.3	567.7
70°	471.5	477.3	473.1	454.2	460.0
72.5°	375.9	368.9	373.4	349.6	360.5
75°	282.6	276.8	281.9	262.1	271.0
77.5°	192.4	196.9	193.7	183.1	189.2
80°	127.0	123.5	123.5	117.4	118.7
82.5°	74.1	70.6	69.6	67.7	70.6
85°	34.6	33.7	34.3	33.4	32.1
87.5°	12.5	12.8	12.8	12.2	11.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)