

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: P590690

Luminaire Tested: FSR-24-2-LD4-3STD-50-UNV-81-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590690  
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-LD4-3STD-50-UNV-81-94-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

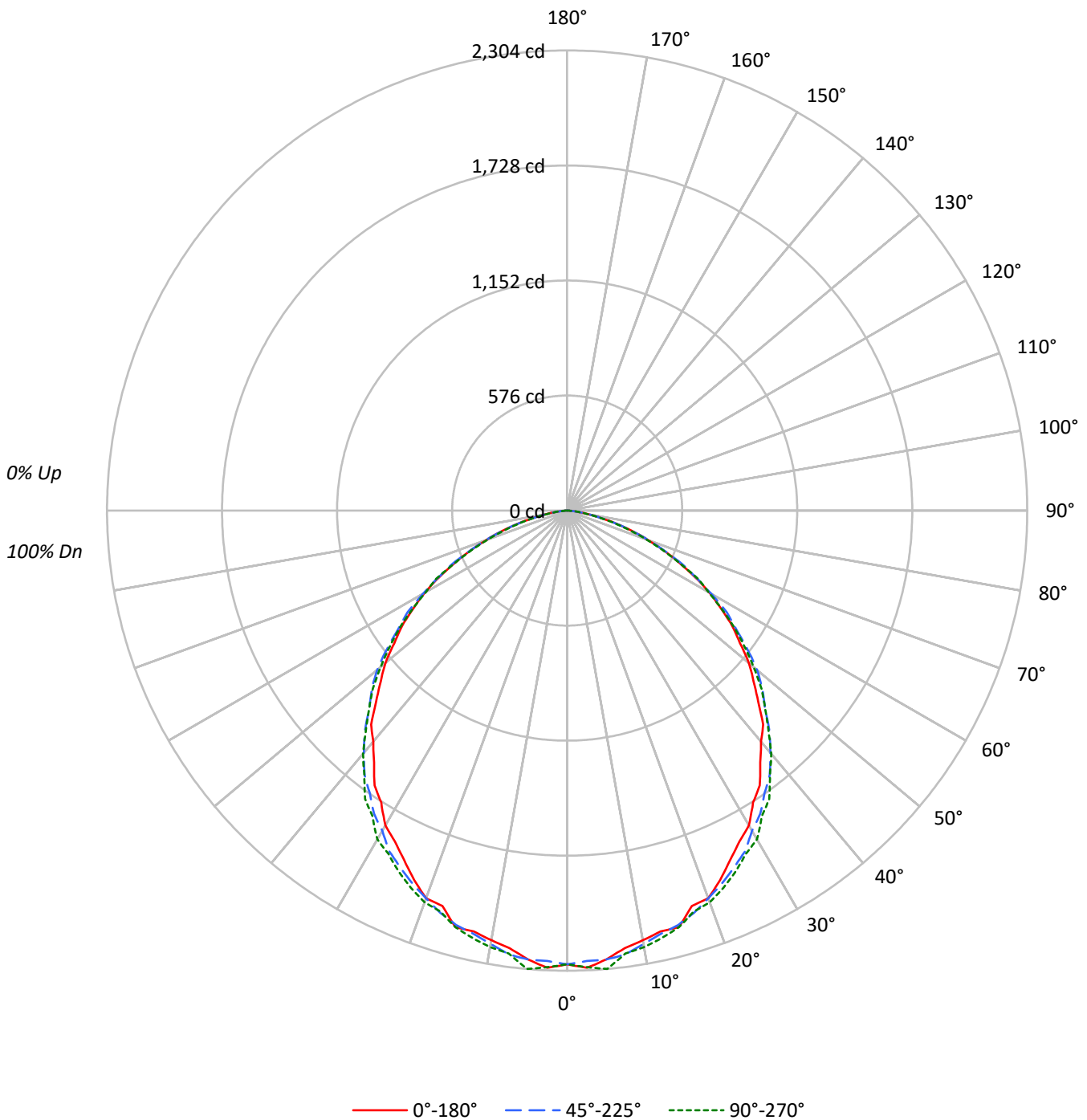
Lumens per Lamp: N/A  
Luminaire Lumens: 5725.0 lumens  
Efficiency: N/A  
Efficacy: 114.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 50  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	6113	6113	6113
5°	6092	6095	6223
10°	5969	6021	6063
15°	6016	5984	6017
20°	5915	5915	5977
25°	5733	5858	5923
30°	5654	5753	5906
35°	5521	5665	5793
40°	5306	5562	5586
45°	5146	5329	5336
50°	4976	5201	5102
55°	4742	4834	4799
60°	4434	4478	4398
65°	3954	4054	3926
70°	3392	3404	3309
75°	2687	2680	2576
80°	1799	1750	1681
85°	979	969	905

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5466 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	213.7	3.7
10°-20°	605.6	10.6
20°-30°	907.3	15.8
30°-40°	1075.3	18.8
40°-50°	1077.3	18.8
50°-60°	914.4	16.0
60°-70°	616.5	10.8
70°-80°	270.9	4.7
80°-90°	44.0	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°	1726.5	30.2
0°-40°	2801.8	48.9
0°-60°	4793.6	83.7
0°-90°	5725.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5725.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2272	2272	2272	2272	2272	
5°	2255	2250	2256	2250	2304	213
15°	2160	2135	2148	2159	2160	602
25°	1931	1941	1973	1999	1995	893
35°	1681	1686	1724	1764	1763	1043
45°	1352	1377	1400	1436	1402	1046
55°	1011	1004	1030	1023	1023	899
65°	621	613	637	612	616	618
75°	258	253	258	240	248	277
85°	32	31	31	30	29	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2271.5	2271.5	2271.5	2271.5	2271.5
2.5°	2291.2	2273.9	2257.8	2276.5	2288.0
5°	2255.4	2250.1	2256.3	2249.5	2303.8
7.5°	2209.1	2229.3	2241.0	2233.7	2236.9
10°	2184.4	2177.4	2203.5	2221.7	2219.0
12.5°	2158.0	2168.6	2170.1	2189.7	2191.5
15°	2159.5	2134.6	2147.8	2158.9	2159.8
17.5°	2075.6	2102.6	2111.7	2137.2	2105.5
20°	2065.4	2045.7	2065.4	2091.5	2087.3
22.5°	2002.3	1980.3	2022.5	2045.7	2044.2
25°	1930.7	1941.3	1973.0	1998.8	1994.7
27.5°	1868.0	1880.3	1925.5	1960.9	1938.1
30°	1819.6	1813.4	1851.5	1883.2	1900.8
32.5°	1733.1	1755.3	1799.9	1831.3	1814.6
35°	1680.6	1685.5	1724.5	1764.4	1763.3
37.5°	1588.8	1611.9	1666.8	1677.9	1667.7
40°	1510.4	1533.6	1583.2	1595.2	1590.2
42.5°	1452.7	1456.8	1499.3	1513.1	1491.1
45°	1352.1	1377.3	1400.2	1436.2	1402.2
47.5°	1266.4	1278.2	1327.4	1337.1	1319.2
50°	1188.7	1192.8	1242.4	1230.4	1218.6
52.5°	1091.0	1108.3	1136.2	1133.9	1120.1
55°	1010.7	1003.9	1030.3	1023.3	1023.0
57.5°	914.2	925.9	947.6	936.5	918.6
60°	823.9	824.1	832.1	819.5	817.1
62.5°	723.3	726.8	728.5	713.0	738.2
65°	620.9	612.7	636.7	612.4	616.5
67.5°	526.7	530.9	528.5	513.3	519.1
70°	431.1	436.4	432.6	415.3	420.6
72.5°	343.7	337.3	341.4	319.7	329.7
75°	258.4	253.1	257.8	239.6	247.8
77.5°	176.0	180.1	177.1	167.5	173.0
80°	116.1	112.9	112.9	107.3	108.5
82.5°	67.8	64.5	63.6	61.9	64.5
85°	31.7	30.8	31.4	30.5	29.3
87.5°	11.4	11.7	11.7	11.1	10.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)