

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: P590505

Luminaire Tested: FSR-24-2-LD4-3HI-50-UNV-82-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590505  
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-LD4-3HI-50-UNV-82-88-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

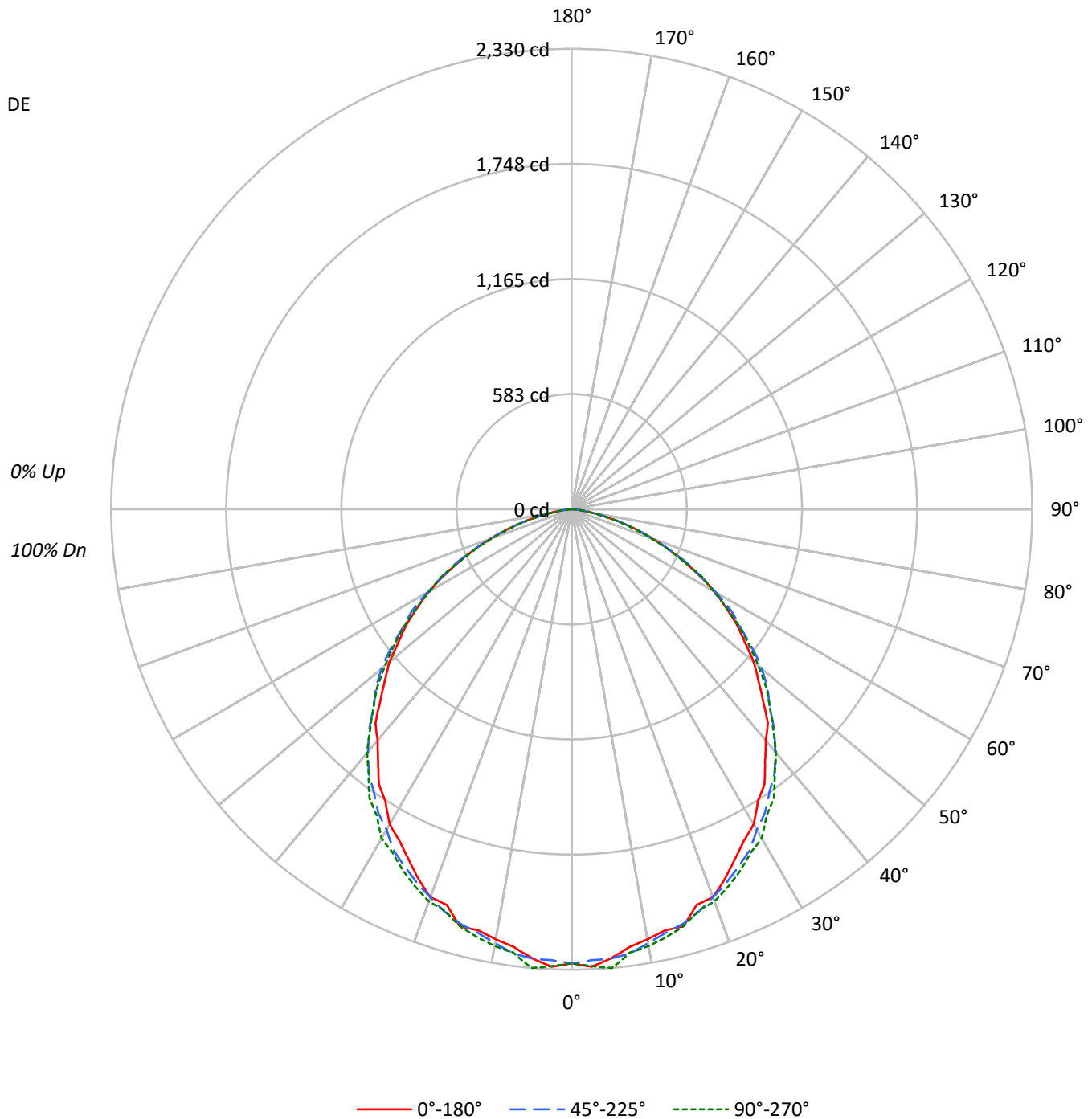
Lumens per Lamp: N/A  
Luminaire Lumens: 5791.0 lumens  
Efficiency: N/A  
Efficacy: 89.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 64.8  
Input Voltage (V):  
Input Current (Ain): NR  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	6183	6183	6183
5°	6163	6165	6295
10°	6038	6090	6133
15°	6086	6052	6086
20°	5983	5983	6046
25°	5799	5926	5991
30°	5719	5820	5974
35°	5584	5730	5859
40°	5367	5625	5651
45°	5205	5390	5398
50°	5034	5261	5161
55°	4796	4890	4855
60°	4485	4530	4448
65°	3999	4101	3971
70°	3431	3443	3347
75°	2718	2712	2607
80°	1821	1770	1702
85°	988	979	917

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5529 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	216.1	3.7
10°-20°	612.6	10.6
20°-30°	917.7	15.8
30°-40°	1087.7	18.8
40°-50°	1089.7	18.8
50°-60°	925.0	16.0
60°-70°	623.6	10.8
70°-80°	274.0	4.7
80°-90°	44.5	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°	1746.4	30.2
0°-40°	2834.1	48.9
0°-60°	4848.8	83.7
0°-90°	5791.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5791.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2298	2298	2298	2298	2298	
5°	2281	2276	2282	2276	2330	215
15°	2184	2159	2172	2184	2185	609
25°	1953	1964	1996	2022	2018	903
35°	1700	1705	1744	1785	1784	1055
45°	1368	1393	1416	1453	1418	1058
55°	1022	1016	1042	1035	1035	909
65°	628	620	644	620	624	625
75°	261	256	261	242	251	280
85°	32	31	32	31	30	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2297.7	2297.7	2297.7	2297.7	2297.7
2.5°	2317.6	2300.1	2283.8	2302.8	2314.3
5°	2281.4	2276.1	2282.3	2275.5	2330.4
7.5°	2234.5	2255.0	2266.9	2259.5	2262.7
10°	2209.6	2202.5	2228.9	2247.3	2244.6
12.5°	2182.9	2193.6	2195.1	2215.0	2216.7
15°	2184.4	2159.2	2172.5	2183.8	2184.7
17.5°	2099.5	2126.8	2136.0	2161.8	2129.8
20°	2089.2	2069.3	2089.2	2115.6	2111.4
22.5°	2025.4	2003.1	2045.8	2069.3	2067.8
25°	1953.0	1963.7	1995.7	2021.8	2017.7
27.5°	1889.5	1902.0	1947.6	1983.5	1960.4
30°	1840.6	1834.3	1872.9	1904.9	1922.7
32.5°	1753.0	1775.6	1820.7	1852.4	1835.5
35°	1699.9	1705.0	1744.4	1784.8	1783.6
37.5°	1607.1	1630.5	1686.0	1697.3	1686.9
40°	1527.9	1551.3	1601.4	1613.6	1608.6
42.5°	1469.4	1473.6	1516.6	1530.5	1508.3
45°	1367.7	1393.2	1416.3	1452.8	1418.4
47.5°	1281.0	1292.9	1342.7	1352.5	1334.4
50°	1202.4	1206.6	1256.7	1244.5	1232.7
52.5°	1103.6	1121.1	1149.3	1146.9	1133.0
55°	1022.3	1015.5	1042.2	1035.1	1034.8
57.5°	924.7	936.6	958.5	947.3	929.2
60°	833.4	833.6	841.7	828.9	826.5
62.5°	731.6	735.2	736.9	721.2	746.7
65°	628.1	619.7	644.1	619.5	623.6
67.5°	532.8	537.0	534.6	519.2	525.1
70°	436.1	441.4	437.6	420.1	425.4
72.5°	347.7	341.2	345.3	323.4	333.5
75°	261.4	256.0	260.8	242.4	250.7
77.5°	178.0	182.2	179.2	169.4	175.0
80°	117.5	114.2	114.2	108.6	109.8
82.5°	68.5	65.3	64.4	62.6	65.3
85°	32.0	31.2	31.7	30.9	29.7
87.5°	11.6	11.9	11.9	11.3	10.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)