

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: P562710

Luminaire Tested: FSR-24-4-LD4-2LO-35-UNV-82-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562710  
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-LD4-2LO-35-UNV-82-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

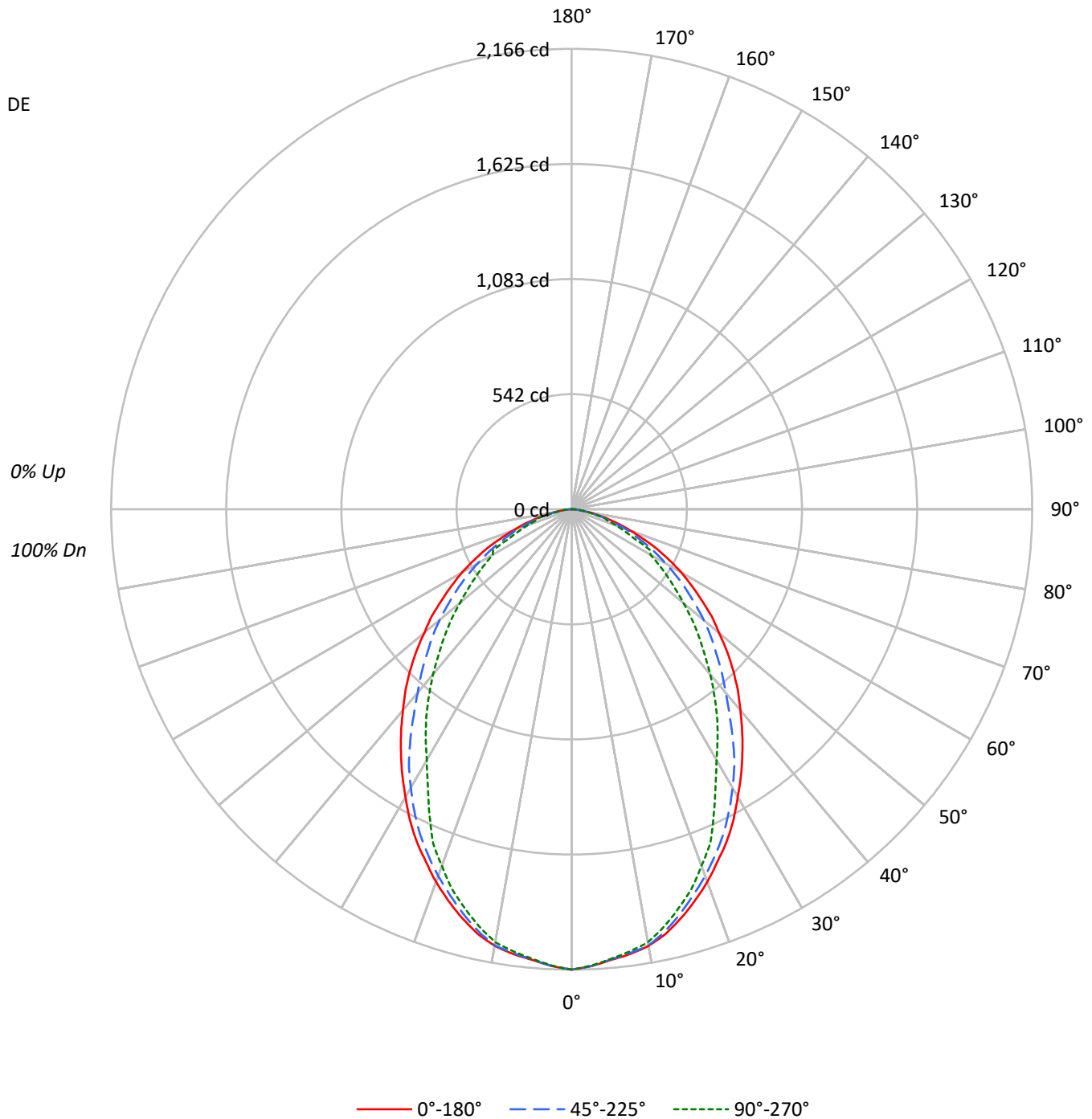
Lumens per Lamp: N/A  
Luminaire Lumens: 4252.0 lumens  
Efficiency: N/A  
Efficacy: 90.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

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

	0°	45°	90°
0°	2914	2914	2914
5°	2875	2871	2868
10°	2850	2846	2826
15°	2773	2745	2707
20°	2671	2628	2556
25°	2561	2506	2349
30°	2428	2350	2116
35°	2299	2172	1958
40°	2168	1979	1781
45°	2044	1830	1610
50°	1892	1698	1436
55°	1750	1539	1286
60°	1604	1375	1152
65°	1411	1204	1020
70°	1162	1054	867
75°	924	807	846
80°	621	582	543
85°	386	463	542

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2044 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	201.6	4.7
10°-20°	553.3	13.0
20°-30°	766.0	18.0
30°-40°	816.8	19.2
40°-50°	745.2	17.5
50°-60°	583.8	13.7
60°-70°	380.5	8.9
70°-80°	168.6	4.0
80°-90°	36.2	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°	1521.0	35.8
0°-40°	2337.8	55.0
0°-60°	3666.8	86.2
0°-90°	4252.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4252.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2166	2166	2166	2166	2166	
5°	2128	2126	2126	2123	2123	202
15°	1991	1991	1971	1951	1943	560
25°	1725	1715	1688	1628	1582	792
35°	1400	1390	1322	1222	1192	875
45°	1074	1052	962	881	846	827
55°	746	724	656	578	548	669
65°	443	418	378	386	320	437
75°	178	165	155	148	163	191
85°	25	28	30	33	35	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2165.9	2165.9	2165.9	2165.9	2165.9
2.5°	2150.9	2150.9	2150.9	2148.4	2148.4
5°	2128.4	2125.8	2125.8	2123.3	2123.3
7.5°	2110.8	2108.3	2105.8	2103.3	2098.3
10°	2085.8	2085.8	2083.3	2070.8	2068.3
12.5°	2045.7	2043.2	2033.2	2015.7	2010.7
15°	1990.6	1990.6	1970.6	1950.6	1943.1
17.5°	1930.5	1928.0	1903.0	1883.0	1873.0
20°	1865.4	1860.4	1835.4	1802.8	1785.3
22.5°	1792.8	1792.8	1762.8	1720.2	1702.7
25°	1725.2	1715.2	1687.7	1627.6	1582.5
27.5°	1647.6	1632.6	1602.5	1517.4	1464.8
30°	1562.5	1554.9	1512.4	1402.2	1362.1
32.5°	1482.3	1469.8	1424.7	1309.6	1277.0
35°	1399.7	1389.7	1322.1	1221.9	1191.9
37.5°	1317.1	1304.6	1219.4	1139.3	1101.7
40°	1234.4	1219.4	1126.8	1054.2	1014.1
42.5°	1156.8	1136.8	1046.6	969.0	924.0
45°	1074.2	1051.7	961.5	881.4	846.3
47.5°	991.6	971.5	888.9	806.3	766.2
50°	903.9	886.4	811.3	728.6	686.1
52.5°	831.3	803.8	731.2	648.5	613.5
55°	746.2	723.6	656.0	578.4	548.4
57.5°	668.6	646.0	583.4	510.8	485.8
60°	595.9	563.4	510.8	448.2	428.2
62.5°	515.8	490.8	445.7	393.1	418.2
65°	443.2	418.2	378.1	385.6	320.5
67.5°	363.1	350.6	315.5	280.4	270.4
70°	295.5	280.4	267.9	230.4	220.3
72.5°	235.4	220.3	202.8	182.8	175.3
75°	177.8	165.3	155.2	147.7	162.8
77.5°	122.7	117.7	110.2	102.7	100.2
80°	80.1	77.6	75.1	72.6	70.1
82.5°	47.6	47.6	47.6	47.6	47.6
85°	25.0	27.5	30.0	32.6	35.1
87.5°	15.0	15.0	17.5	20.0	22.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)