

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: P562133

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562133
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-LD4-1HI-50-UNV-82-86-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

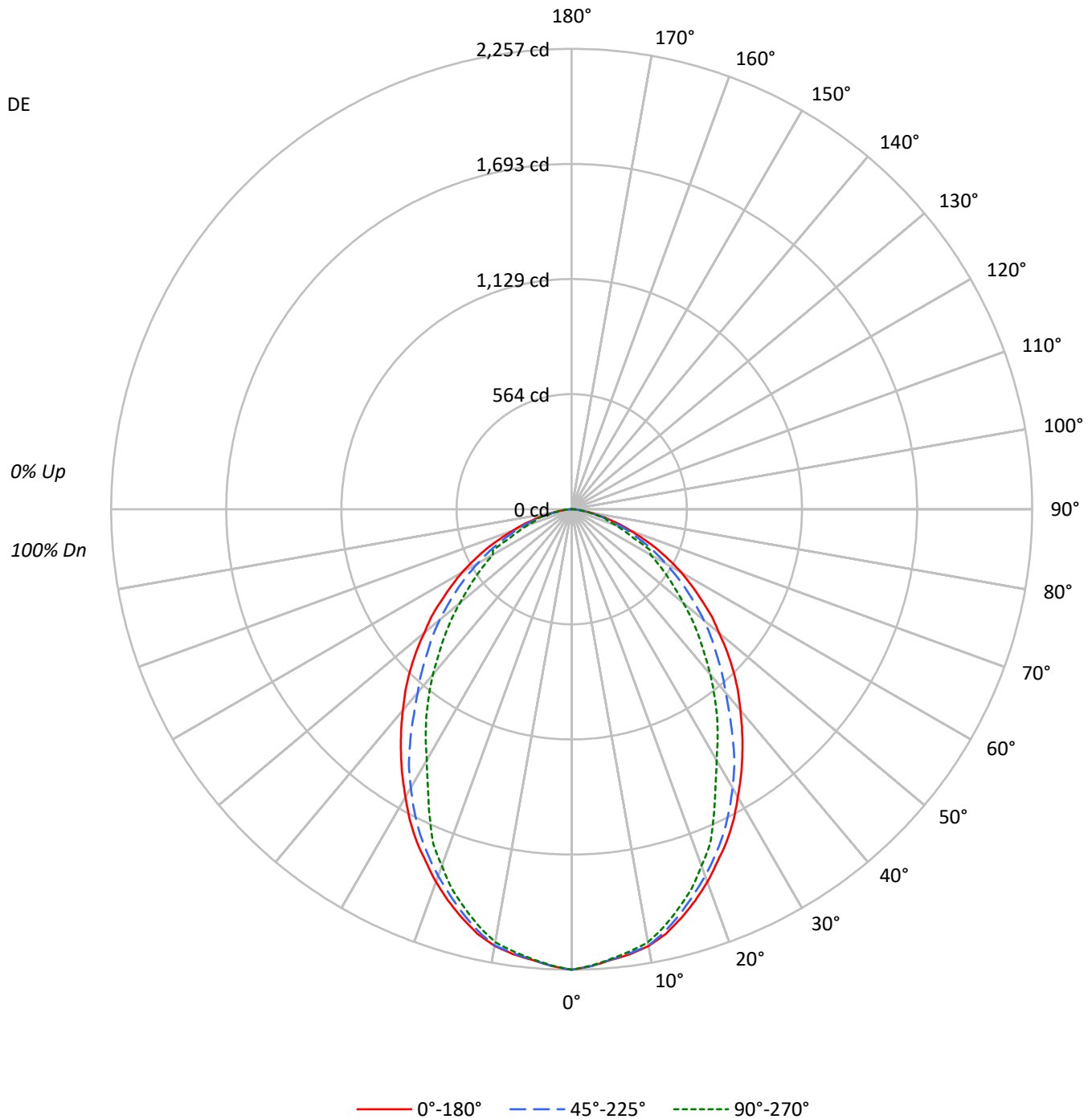
Lumens per Lamp: N/A
Luminaire Lumens: 4431.0 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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	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°	3037	3037	3037
5°	2996	2992	2989
10°	2970	2966	2945
15°	2890	2861	2821
20°	2783	2739	2664
25°	2669	2611	2448
30°	2530	2449	2205
35°	2396	2263	2040
40°	2259	2062	1856
45°	2130	1907	1678
50°	1972	1770	1497
55°	1824	1604	1340
60°	1671	1432	1201
65°	1471	1254	1063
70°	1211	1098	903
75°	963	841	882
80°	647	607	566
85°	403	483	563

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2130 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.1	4.7
10°-20°	576.6	13.0
20°-30°	798.3	18.0
30°-40°	851.2	19.2
40°-50°	776.5	17.5
50°-60°	608.4	13.7
60°-70°	396.5	8.9
70°-80°	175.7	4.0
80°-90°	37.7	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°	1585.0	35.8
0°-40°	2436.2	55.0
0°-60°	3821.1	86.2
0°-90°	4431.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4431.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2257	2257	2257	2257	2257	
5°	2218	2215	2215	2213	2213	211
15°	2074	2074	2054	2033	2025	583
25°	1798	1787	1759	1696	1649	825
35°	1459	1448	1378	1273	1242	912
45°	1119	1096	1002	918	882	862
55°	778	754	684	603	571	697
65°	462	436	394	402	334	455
75°	185	172	162	154	170	199
85°	26	29	31	34	36	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2257.1	2257.1	2257.1	2257.1	2257.1
2.5°	2241.4	2241.4	2241.4	2238.8	2238.8
5°	2218.0	2215.3	2215.3	2212.7	2212.7
7.5°	2199.7	2197.1	2194.5	2191.9	2186.6
10°	2173.6	2173.6	2171.0	2157.9	2155.3
12.5°	2131.8	2129.2	2118.8	2100.5	2095.3
15°	2074.4	2074.4	2053.6	2032.7	2024.9
17.5°	2011.8	2009.2	1983.1	1962.2	1951.8
20°	1944.0	1938.8	1912.7	1878.7	1860.5
22.5°	1868.3	1868.3	1837.0	1792.6	1774.4
25°	1797.8	1787.4	1758.7	1696.1	1649.1
27.5°	1717.0	1701.3	1670.0	1581.3	1526.5
30°	1628.2	1620.4	1576.1	1461.2	1419.5
32.5°	1544.7	1531.7	1484.7	1364.7	1330.8
35°	1458.6	1448.2	1377.7	1273.4	1242.1
37.5°	1372.5	1359.5	1270.8	1187.3	1148.1
40°	1286.4	1270.8	1174.2	1098.5	1056.8
42.5°	1205.5	1184.6	1090.7	1009.8	962.9
45°	1119.4	1095.9	1002.0	918.5	882.0
47.5°	1033.3	1012.4	926.3	840.2	798.5
50°	942.0	923.7	845.4	759.3	715.0
52.5°	866.3	837.6	761.9	675.8	639.3
55°	777.6	754.1	683.7	602.8	571.4
57.5°	696.7	673.2	608.0	532.3	506.2
60°	621.0	587.1	532.3	467.1	446.2
62.5°	537.5	511.4	464.5	409.7	435.8
65°	461.9	435.8	394.0	401.8	334.0
67.5°	378.4	365.3	328.8	292.2	281.8
70°	307.9	292.2	279.2	240.1	229.6
72.5°	245.3	229.6	211.4	190.5	182.7
75°	185.3	172.2	161.8	154.0	169.6
77.5°	127.9	122.6	114.8	107.0	104.4
80°	83.5	80.9	78.3	75.7	73.1
82.5°	49.6	49.6	49.6	49.6	49.6
85°	26.1	28.7	31.3	33.9	36.5
87.5°	15.7	15.7	18.3	20.9	23.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)