

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: P590853

Luminaire Tested: FSR-24-2-LD4-4LO-40-UNV-82-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590853
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-LD4-4LO-40-UNV-82-84-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5474.0 lumens
Efficiency: N/A
Efficacy: 117.0 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

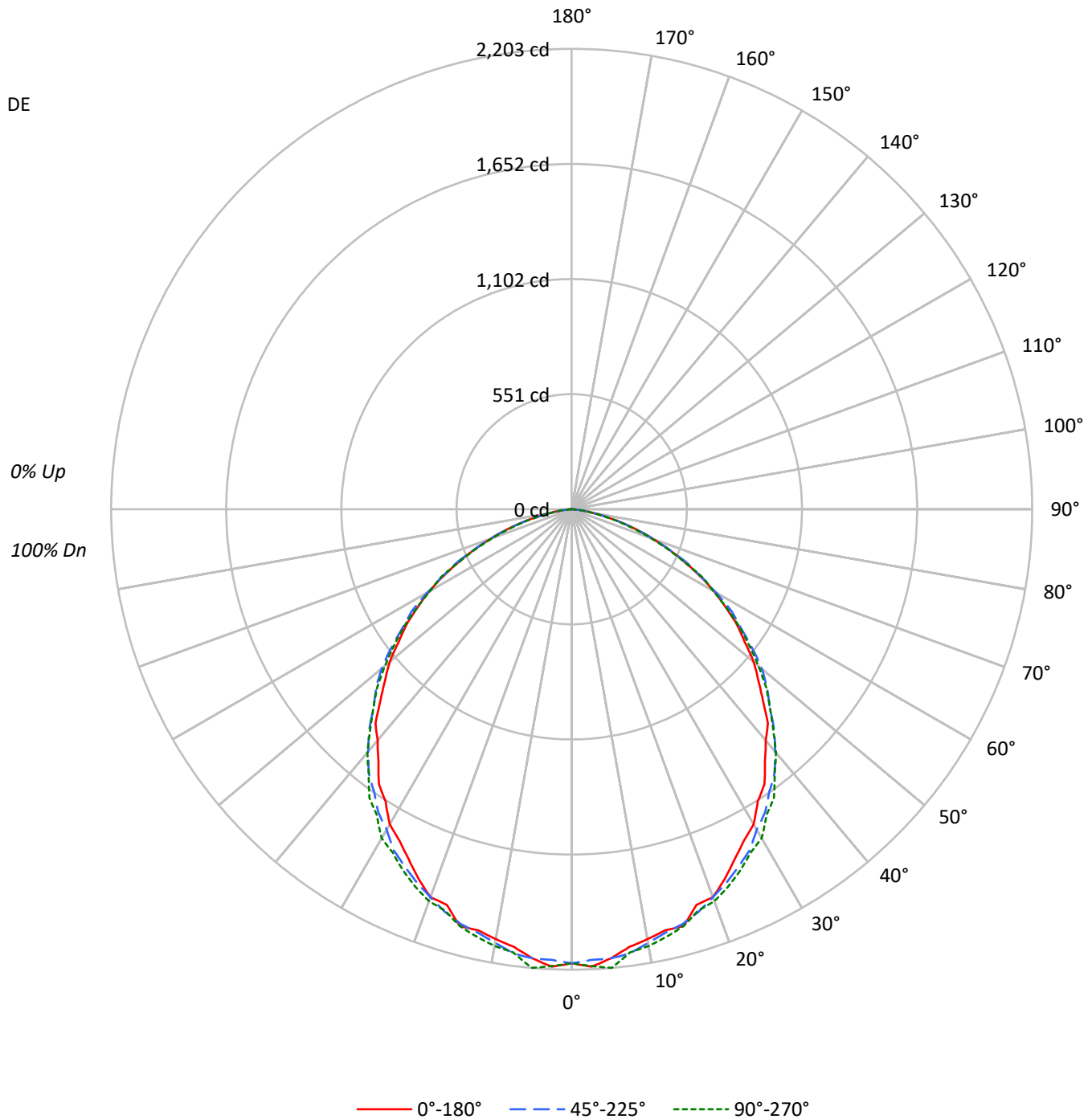
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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													86															
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73													73															
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62													62															
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53													53															
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46													46															
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41													41															
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36													36															
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32													32															
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29													29															
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26													26															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5845	5845	5845
5°	5825	5828	5950
10°	5707	5757	5798
15°	5752	5721	5753
20°	5655	5655	5715
25°	5481	5601	5663
30°	5406	5501	5647
35°	5279	5417	5539
40°	5073	5318	5341
45°	4920	5095	5102
50°	4758	4973	4878
55°	4534	4622	4589
60°	4239	4282	4205
65°	3780	3876	3754
70°	3243	3254	3164
75°	2569	2563	2464
80°	1722	1674	1609
85°	936	926	865

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5226 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.3	3.7
10°-20°	579.0	10.6
20°-30°	867.5	15.8
30°-40°	1028.2	18.8
40°-50°	1030.1	18.8
50°-60°	874.3	16.0
60°-70°	589.5	10.8
70°-80°	259.0	4.7
80°-90°	42.1	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°	1650.8	30.2
0°-40°	2679.0	48.9
0°-60°	4583.4	83.7
0°-90°	5474.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5474.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2172	2172	2172	2172	2172	
5°	2156	2152	2157	2151	2203	203
15°	2065	2041	2054	2064	2065	575
25°	1846	1856	1886	1911	1907	853
35°	1607	1612	1649	1687	1686	998
45°	1293	1317	1339	1373	1341	1000
55°	966	960	985	978	978	860
65°	594	586	609	586	590	590
75°	247	242	246	229	237	265
85°	30	29	30	29	28	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2171.9	2171.9	2171.9	2171.9	2171.9
2.5°	2190.7	2174.2	2158.8	2176.7	2187.6
5°	2156.5	2151.5	2157.4	2150.9	2202.8
7.5°	2112.2	2131.6	2142.8	2135.8	2138.9
10°	2088.7	2081.9	2106.9	2124.3	2121.7
12.5°	2063.4	2073.5	2074.9	2093.7	2095.4
15°	2064.8	2041.0	2053.6	2064.3	2065.1
17.5°	1984.6	2010.4	2019.1	2043.5	2013.2
20°	1974.8	1956.0	1974.8	1999.8	1995.8
22.5°	1914.5	1893.5	1933.9	1956.0	1954.6
25°	1846.1	1856.2	1886.5	1911.1	1907.2
27.5°	1786.1	1797.8	1841.0	1875.0	1853.1
30°	1739.8	1733.9	1770.4	1800.7	1817.5
32.5°	1657.1	1678.4	1721.0	1751.0	1735.0
35°	1606.9	1611.6	1648.9	1687.1	1686.0
37.5°	1519.1	1541.3	1593.7	1604.4	1594.5
40°	1444.2	1466.4	1513.8	1525.3	1520.5
42.5°	1389.0	1392.9	1433.6	1446.7	1425.7
45°	1292.8	1316.9	1338.8	1373.3	1340.7
47.5°	1210.9	1222.1	1269.2	1278.5	1261.4
50°	1136.6	1140.5	1187.9	1176.4	1165.2
52.5°	1043.2	1059.8	1086.4	1084.1	1071.0
55°	966.4	959.9	985.2	978.4	978.1
57.5°	874.1	885.3	906.1	895.4	878.3
60°	787.7	788.0	795.6	783.5	781.3
62.5°	691.5	694.9	696.6	681.7	705.8
65°	593.7	585.8	608.8	585.5	589.5
67.5°	503.7	507.6	505.3	490.8	496.4
70°	412.2	417.3	413.6	397.1	402.1
72.5°	328.7	322.5	326.4	305.7	315.2
75°	247.1	242.0	246.5	229.1	237.0
77.5°	168.3	172.2	169.4	160.1	165.5
80°	111.1	108.0	108.0	102.6	103.8
82.5°	64.8	61.7	60.9	59.2	61.7
85°	30.3	29.4	30.0	29.2	28.0
87.5°	10.9	11.2	11.2	10.7	10.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)