

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: P590857

Luminaire Tested: FSR-24-2-LD4-4LO-40-UNV-82-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590857
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-82-88-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

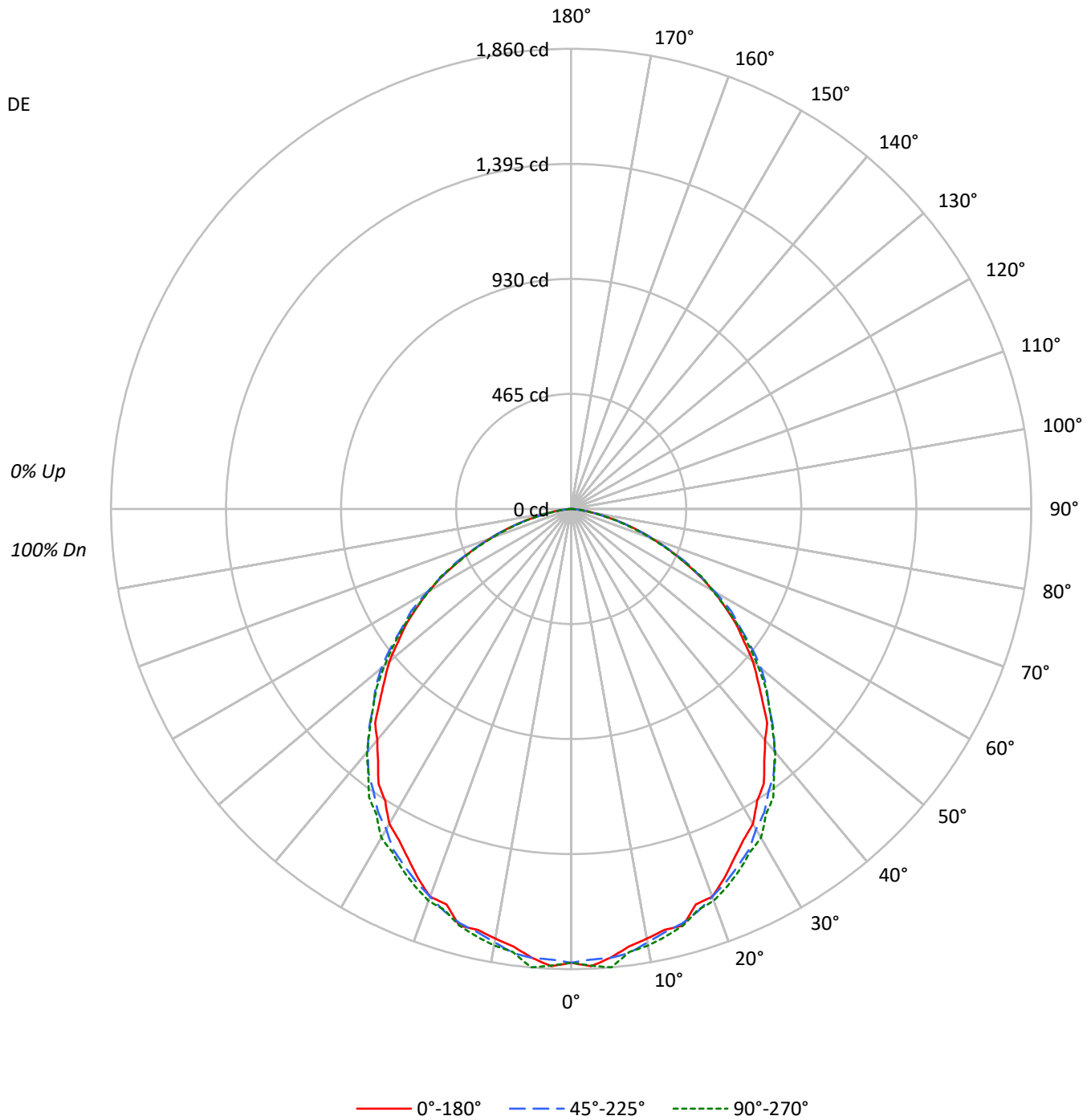
Lumens per Lamp: N/A
Luminaire Lumens: 4622.0 lumens
Efficiency: N/A
Efficacy: 98.8 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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	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°	4935	4935	4935
5°	4919	4921	5024
10°	4819	4861	4895
15°	4857	4831	4858
20°	4775	4775	4826
25°	4628	4729	4782
30°	4565	4645	4768
35°	4457	4574	4676
40°	4284	4490	4510
45°	4154	4302	4308
50°	4018	4199	4119
55°	3828	3902	3875
60°	3580	3616	3550
65°	3192	3273	3169
70°	2739	2748	2671
75°	2169	2164	2080
80°	1454	1413	1358
85°	790	781	732

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4413 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.5	3.7
10°-20°	488.9	10.6
20°-30°	732.5	15.8
30°-40°	868.1	18.8
40°-50°	869.7	18.8
50°-60°	738.3	16.0
60°-70°	497.7	10.8
70°-80°	218.7	4.7
80°-90°	35.6	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°	1393.9	30.2
0°-40°	2262.0	48.9
0°-60°	3870.0	83.7
0°-90°	4622.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4622.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1834	1834	1834	1834	1834	
5°	1821	1817	1822	1816	1860	172
15°	1743	1723	1734	1743	1744	486
25°	1559	1567	1593	1614	1610	721
35°	1357	1361	1392	1424	1424	842
45°	1092	1112	1130	1160	1132	844
55°	816	810	832	826	826	726
65°	501	495	514	494	498	499
75°	209	204	208	194	200	224
85°	26	25	25	25	24	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1833.9	1833.9	1833.9	1833.9	1833.9
2.5°	1849.8	1835.8	1822.8	1837.9	1847.2
5°	1820.9	1816.6	1821.6	1816.1	1859.9
7.5°	1783.5	1799.8	1809.3	1803.3	1806.0
10°	1763.6	1757.9	1779.0	1793.6	1791.5
12.5°	1742.3	1750.8	1752.0	1767.8	1769.3
15°	1743.4	1723.3	1734.0	1743.0	1743.7
17.5°	1675.7	1697.5	1704.8	1725.4	1699.9
20°	1667.4	1651.6	1667.4	1688.5	1685.2
22.5°	1616.5	1598.8	1632.9	1651.6	1650.4
25°	1558.7	1567.3	1592.8	1613.7	1610.4
27.5°	1508.1	1518.0	1554.5	1583.1	1564.7
30°	1469.0	1464.0	1494.8	1520.4	1534.6
32.5°	1399.2	1417.2	1453.1	1478.5	1465.0
35°	1356.8	1360.8	1392.3	1424.5	1423.5
37.5°	1282.7	1301.4	1345.6	1354.6	1346.4
40°	1219.4	1238.1	1278.2	1287.9	1283.8
42.5°	1172.8	1176.1	1210.4	1221.6	1203.8
45°	1091.6	1111.9	1130.4	1159.5	1132.1
47.5°	1022.4	1031.9	1071.7	1079.5	1065.1
50°	959.7	963.0	1003.0	993.3	983.8
52.5°	880.8	894.8	917.3	915.4	904.3
55°	816.0	810.5	831.8	826.1	825.9
57.5°	738.1	747.5	765.0	756.1	741.6
60°	665.1	665.4	671.8	661.6	659.7
62.5°	583.9	586.8	588.2	575.6	596.0
65°	501.3	494.6	514.1	494.4	497.7
67.5°	425.3	428.6	426.7	414.4	419.1
70°	348.1	352.3	349.3	335.3	339.5
72.5°	277.5	272.3	275.6	258.1	266.1
75°	208.6	204.3	208.1	193.5	200.1
77.5°	142.1	145.4	143.0	135.2	139.7
80°	93.8	91.2	91.2	86.7	87.6
82.5°	54.7	52.1	51.4	50.0	52.1
85°	25.6	24.9	25.3	24.6	23.7
87.5°	9.2	9.5	9.5	9.0	8.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)