

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: P590659

Luminaire Tested: FSR-24-2-LD4-3STD-40-UNV-81-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590659
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-LD4-3STD-40-UNV-81-96-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5567.0 lumens
Efficiency: N/A
Efficacy: 111.3 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

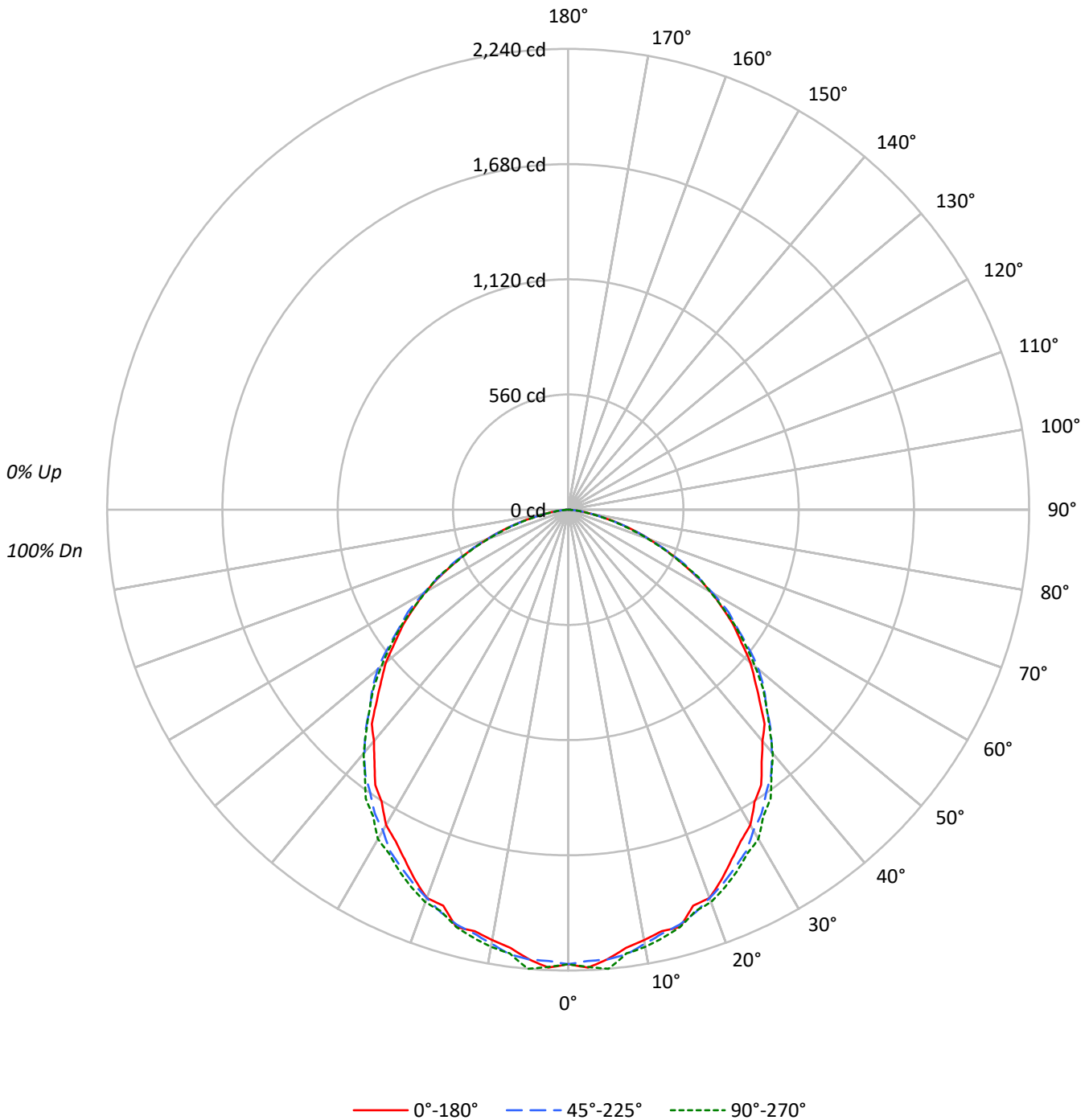
Input Watts (W): 50
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5944	5944	5944
5°	5924	5927	6051
10°	5804	5855	5896
15°	5850	5818	5851
20°	5751	5751	5812
25°	5574	5696	5759
30°	5498	5594	5743
35°	5368	5509	5633
40°	5160	5408	5432
45°	5004	5181	5189
50°	4839	5058	4961
55°	4611	4700	4667
60°	4311	4355	4277
65°	3845	3943	3817
70°	3298	3310	3218
75°	2613	2607	2506
80°	1750	1702	1635
85°	951	942	880

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5315 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.8	3.7
10°-20°	588.9	10.6
20°-30°	882.2	15.8
30°-40°	1045.6	18.8
40°-50°	1047.6	18.8
50°-60°	889.2	16.0
60°-70°	599.5	10.8
70°-80°	263.4	4.7
80°-90°	42.8	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°	1678.9	30.2
0°-40°	2724.5	48.9
0°-60°	4661.3	83.7
0°-90°	5567.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5567.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2209	2209	2209	2209	2209	
5°	2193	2188	2194	2188	2240	207
15°	2100	2076	2088	2099	2100	585
25°	1877	1888	1918	1944	1940	868
35°	1634	1639	1677	1716	1715	1015
45°	1315	1339	1362	1397	1364	1017
55°	983	976	1002	995	995	874
65°	604	596	619	596	600	600
75°	251	246	251	233	241	269
85°	31	30	30	30	28	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2208.8	2208.8	2208.8	2208.8	2208.8
2.5°	2228.0	2211.1	2195.4	2213.7	2224.8
5°	2193.2	2188.0	2194.0	2187.5	2240.2
7.5°	2148.1	2167.8	2179.2	2172.1	2175.2
10°	2124.1	2117.3	2142.7	2160.4	2157.8
12.5°	2098.5	2108.7	2110.2	2129.3	2131.0
15°	2099.9	2075.7	2088.5	2099.3	2100.2
17.5°	2018.3	2044.6	2053.4	2078.2	2047.4
20°	2008.4	1989.2	2008.4	2033.7	2029.7
22.5°	1947.0	1925.6	1966.7	1989.2	1987.8
25°	1877.4	1887.7	1918.5	1943.6	1939.6
27.5°	1816.4	1828.4	1872.3	1906.8	1884.6
30°	1769.4	1763.4	1800.4	1831.2	1848.4
32.5°	1685.2	1706.9	1750.2	1780.8	1764.5
35°	1634.2	1639.0	1677.0	1715.7	1714.6
37.5°	1544.9	1567.4	1620.8	1631.6	1621.6
40°	1468.8	1491.3	1539.5	1551.2	1546.3
42.5°	1412.6	1416.6	1457.9	1471.3	1449.9
45°	1314.8	1339.3	1361.5	1396.6	1363.5
47.5°	1231.5	1242.9	1290.8	1300.2	1282.8
50°	1155.9	1159.9	1208.1	1196.4	1185.0
52.5°	1060.9	1077.8	1104.9	1102.6	1089.2
55°	982.8	976.2	1001.9	995.0	994.8
57.5°	889.0	900.4	921.5	910.6	893.2
60°	801.1	801.4	809.1	796.8	794.6
62.5°	703.3	706.7	708.4	693.3	717.8
65°	603.8	595.8	619.2	595.5	599.5
67.5°	512.2	516.2	513.9	499.1	504.8
70°	419.2	424.4	420.7	403.8	409.0
72.5°	334.3	328.0	332.0	310.9	320.6
75°	251.3	246.1	250.7	233.0	241.0
77.5°	171.1	175.1	172.3	162.8	168.3
80°	112.9	109.8	109.8	104.4	105.5
82.5°	65.9	62.7	61.9	60.2	62.7
85°	30.8	29.9	30.5	29.7	28.5
87.5°	11.1	11.4	11.4	10.8	10.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)