

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: P590210

Luminaire Tested: FSR-24-2-LD4-2HI-50-UNV-81-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590210
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-LD4-2HI-50-UNV-81-94-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4681.0 lumens
Efficiency: N/A
Efficacy: 108.4 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

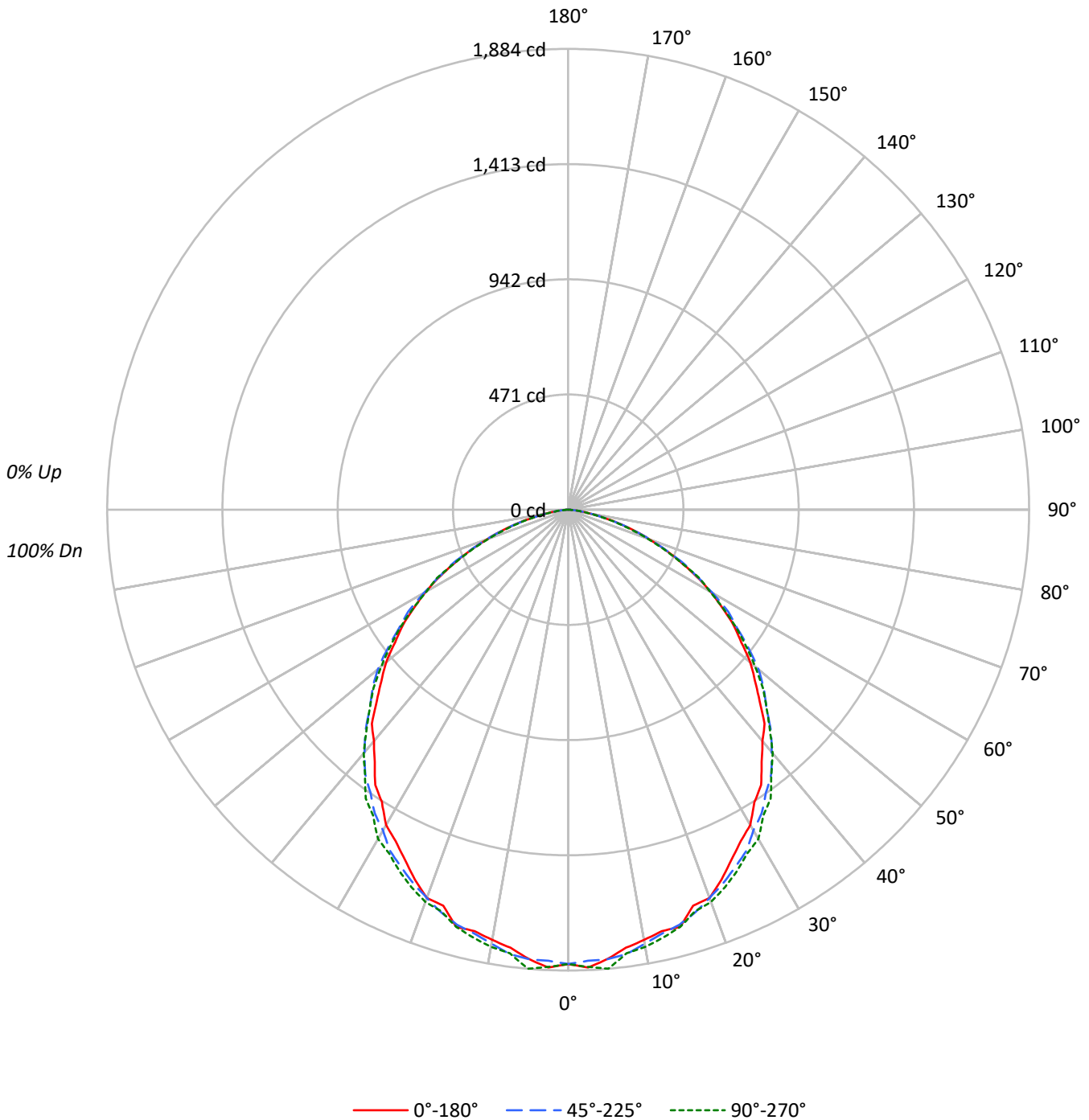
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4998	4998	4998
5°	4981	4983	5088
10°	4881	4923	4958
15°	4919	4892	4920
20°	4836	4836	4887
25°	4687	4790	4842
30°	4623	4704	4829
35°	4514	4632	4736
40°	4338	4547	4567
45°	4207	4357	4363
50°	4069	4253	4171
55°	3877	3952	3924
60°	3625	3661	3596
65°	3233	3315	3210
70°	2773	2783	2706
75°	2197	2192	2106
80°	1472	1430	1375
85°	800	794	741

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4469 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.7	3.7
10°-20°	495.1	10.6
20°-30°	741.8	15.8
30°-40°	879.2	18.8
40°-50°	880.8	18.8
50°-60°	747.7	16.0
60°-70°	504.1	10.8
70°-80°	221.5	4.7
80°-90°	36.0	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°	1411.7	30.2
0°-40°	2290.9	48.9
0°-60°	3919.4	83.7
0°-90°	4681.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4681.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1857	1857	1857	1857	1857	
5°	1844	1840	1845	1839	1884	174
15°	1766	1745	1756	1765	1766	492
25°	1579	1587	1613	1634	1631	730
35°	1374	1378	1410	1443	1442	853
45°	1106	1126	1145	1174	1146	855
55°	826	821	842	837	836	735
65°	508	501	521	501	504	505
75°	211	207	211	196	203	226
85°	26	25	26	25	24	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1857.3	1857.3	1857.3	1857.3	1857.3
2.5°	1873.4	1859.2	1846.0	1861.4	1870.7
5°	1844.1	1839.8	1844.8	1839.3	1883.7
7.5°	1806.2	1822.8	1832.4	1826.4	1829.0
10°	1786.1	1780.3	1801.7	1816.5	1814.4
12.5°	1764.5	1773.1	1774.3	1790.4	1791.8
15°	1765.7	1745.3	1756.1	1765.2	1765.9
17.5°	1697.1	1719.2	1726.6	1747.5	1721.6
20°	1688.7	1672.7	1688.7	1710.1	1706.7
22.5°	1637.2	1619.2	1653.7	1672.7	1671.5
25°	1578.6	1587.3	1613.2	1634.3	1630.9
27.5°	1527.3	1537.4	1574.3	1603.3	1584.6
30°	1487.8	1482.7	1513.9	1539.8	1554.2
32.5°	1417.0	1435.2	1471.7	1497.4	1483.7
35°	1374.1	1378.2	1410.1	1442.7	1441.7
37.5°	1299.0	1318.0	1362.8	1371.9	1363.5
40°	1235.0	1253.9	1294.5	1304.3	1300.2
42.5°	1187.8	1191.1	1225.9	1237.2	1219.2
45°	1105.5	1126.1	1144.8	1174.3	1146.5
47.5°	1035.5	1045.1	1085.4	1093.3	1078.7
50°	971.9	975.3	1015.8	1006.0	996.4
52.5°	892.1	906.2	929.0	927.1	915.8
55°	826.4	820.9	842.4	836.7	836.4
57.5°	747.5	757.1	774.8	765.7	751.1
60°	673.6	673.9	680.3	670.0	668.1
62.5°	591.4	594.2	595.7	583.0	603.6
65°	507.7	501.0	520.6	500.7	504.1
67.5°	430.7	434.1	432.1	419.7	424.5
70°	352.5	356.8	353.7	339.6	343.9
72.5°	281.1	275.8	279.1	261.4	269.5
75°	211.3	207.0	210.8	195.9	202.6
77.5°	143.9	147.2	144.8	136.9	141.5
80°	95.0	92.3	92.3	87.8	88.7
82.5°	55.4	52.8	52.0	50.6	52.8
85°	25.9	25.2	25.7	24.9	24.0
87.5°	9.4	9.6	9.6	9.1	8.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)