

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: P590196

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-93-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590196
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-40-UNV-93-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4629.0 lumens
Efficiency: N/A
Efficacy: 107.2 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

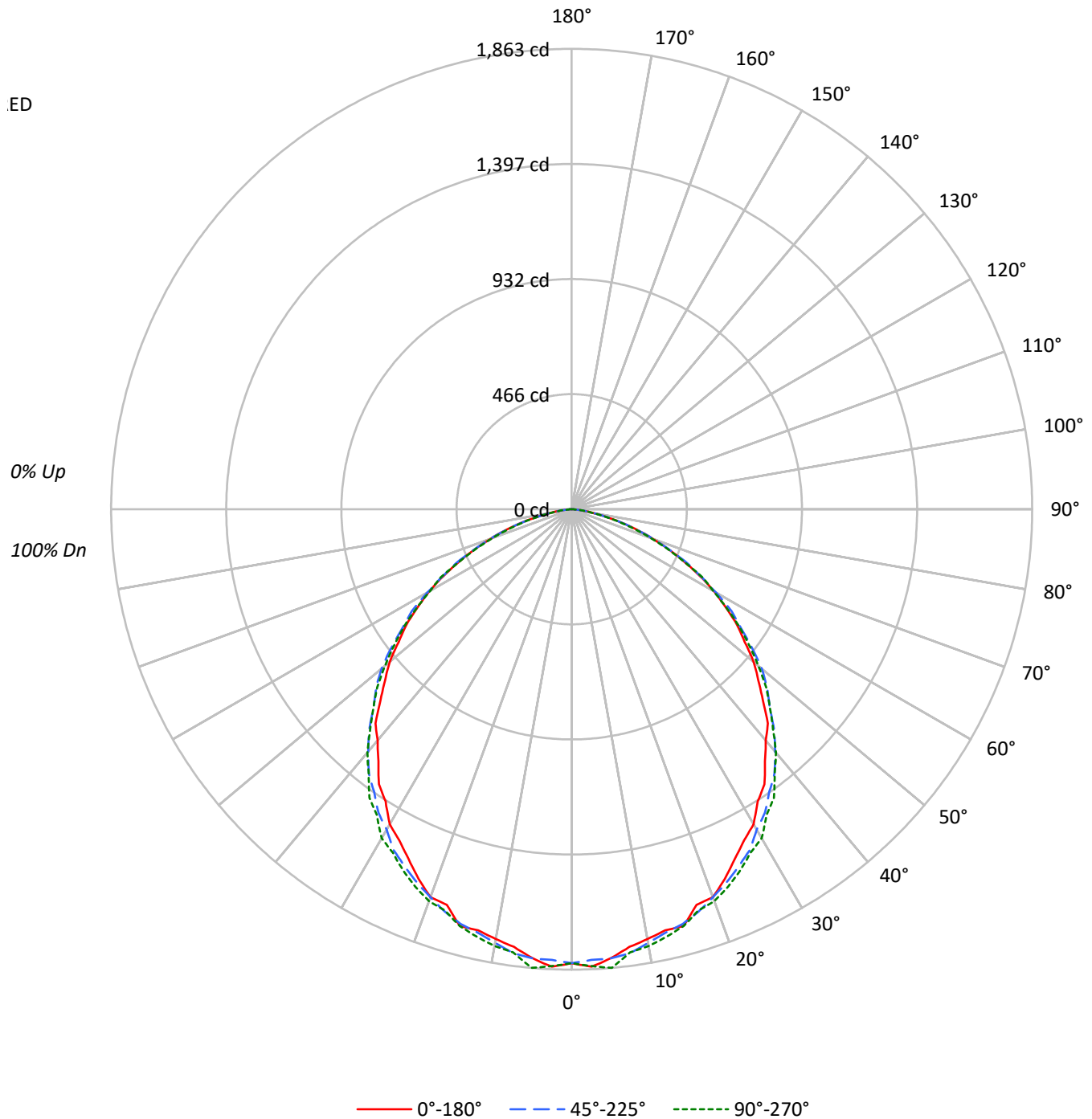
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	4943	4943	4943
5°	4926	4928	5032
10°	4826	4868	4903
15°	4864	4838	4865
20°	4782	4782	4833
25°	4635	4737	4789
30°	4571	4652	4776
35°	4464	4581	4684
40°	4290	4497	4517
45°	4160	4308	4315
50°	4024	4205	4125
55°	3834	3909	3881
60°	3585	3621	3556
65°	3196	3278	3174
70°	2743	2752	2676
75°	2172	2167	2084
80°	1455	1415	1359
85°	790	784	732

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4419 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.8	3.7
10°-20°	489.6	10.6
20°-30°	733.6	15.8
30°-40°	869.4	18.8
40°-50°	871.1	18.8
50°-60°	739.4	16.0
60°-70°	498.5	10.8
70°-80°	219.0	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°	1396.0	30.2
0°-40°	2265.4	48.9
0°-60°	3875.9	83.7
0°-90°	4629.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4629.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1837	1837	1837	1837	1837	
5°	1824	1819	1824	1819	1863	172
15°	1746	1726	1737	1746	1746	486
25°	1561	1570	1595	1616	1613	722
35°	1359	1363	1394	1427	1426	844
45°	1093	1114	1132	1161	1134	846
55°	817	812	833	827	827	727
65°	502	495	515	495	498	499
75°	209	205	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°	1836.7	1836.7	1836.7	1836.7	1836.7
2.5°	1852.6	1838.6	1825.5	1840.7	1850.0
5°	1823.6	1819.4	1824.3	1818.9	1862.8
7.5°	1786.2	1802.5	1812.0	1806.1	1808.7
10°	1766.2	1760.5	1781.7	1796.4	1794.2
12.5°	1744.9	1753.4	1754.6	1770.5	1771.9
15°	1746.1	1725.9	1736.6	1745.6	1746.3
17.5°	1678.3	1700.1	1707.4	1728.1	1702.4
20°	1670.0	1654.1	1670.0	1691.1	1687.7
22.5°	1619.0	1601.2	1635.3	1654.1	1652.9
25°	1561.1	1569.6	1595.3	1616.1	1612.8
27.5°	1510.4	1520.3	1556.8	1585.5	1567.0
30°	1471.2	1466.3	1497.1	1522.7	1536.9
32.5°	1401.3	1419.3	1455.3	1480.7	1467.2
35°	1358.8	1362.9	1394.4	1426.7	1425.7
37.5°	1284.6	1303.3	1347.7	1356.7	1348.4
40°	1221.3	1240.0	1280.1	1289.8	1285.8
42.5°	1174.6	1177.9	1212.3	1223.4	1205.6
45°	1093.2	1113.6	1132.1	1161.3	1133.8
47.5°	1024.0	1033.5	1073.3	1081.1	1066.7
50°	961.1	964.5	1004.5	994.8	985.3
52.5°	882.2	896.2	918.7	916.8	905.6
55°	817.2	811.7	833.1	827.4	827.2
57.5°	739.2	748.7	766.2	757.2	742.7
60°	666.1	666.4	672.8	662.6	660.7
62.5°	584.8	587.6	589.1	576.5	596.9
65°	502.0	495.4	514.8	495.2	498.5
67.5°	425.9	429.2	427.3	415.0	419.7
70°	348.6	352.9	349.8	335.8	340.1
72.5°	277.9	272.7	276.0	258.5	266.5
75°	208.9	204.7	208.4	193.7	200.4
77.5°	142.3	145.6	143.2	135.4	139.9
80°	93.9	91.3	91.3	86.8	87.7
82.5°	54.8	52.2	51.5	50.0	52.2
85°	25.6	24.9	25.4	24.7	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)