

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: P590819

Luminaire Tested: FSR-24-2-LD4-4LO-35-UNV-81-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590819
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5488.0 lumens
Efficiency: N/A
Efficacy: 117.3 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

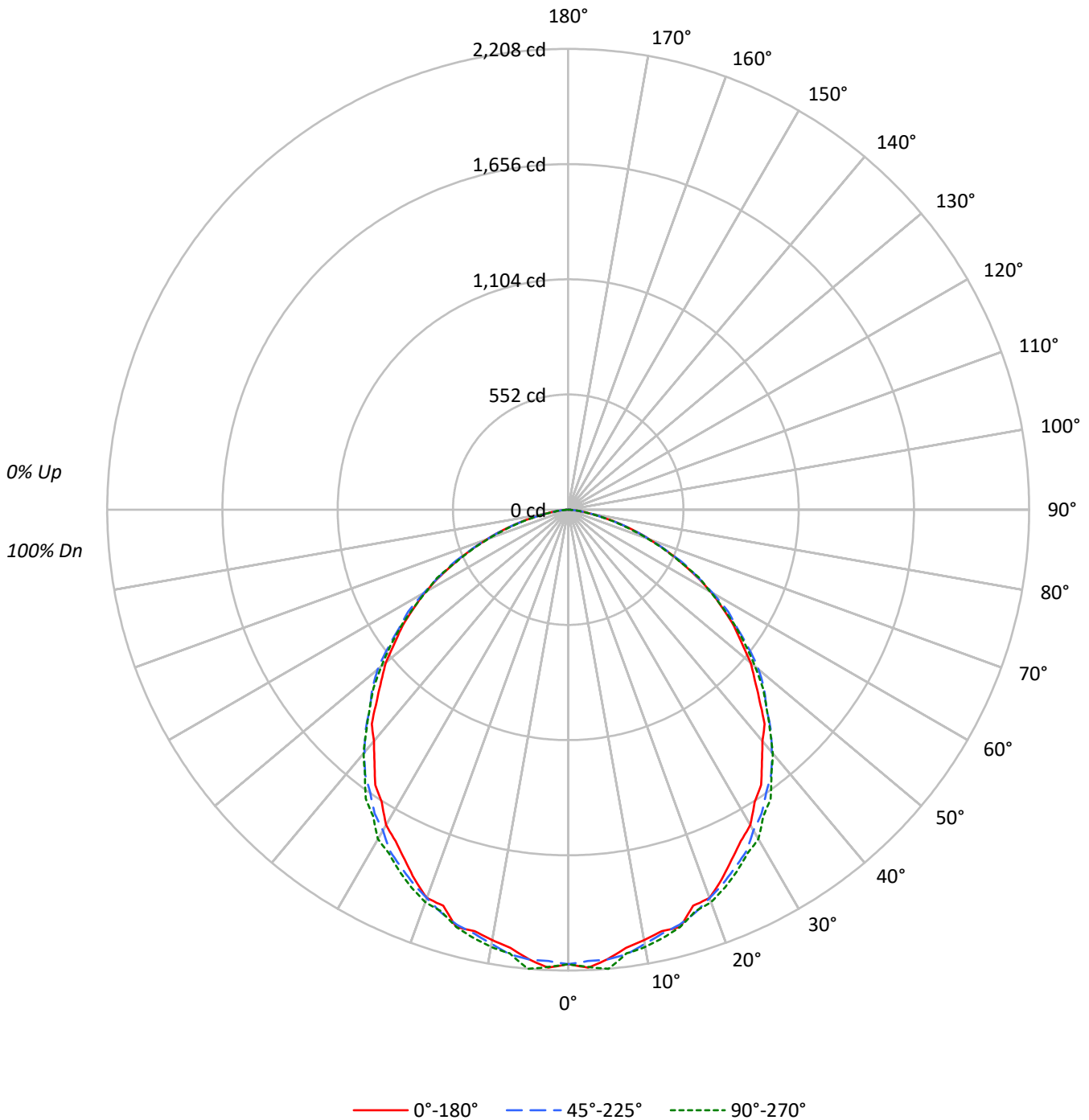
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5860	5860	5860
5°	5840	5843	5965
10°	5722	5772	5813
15°	5767	5736	5768
20°	5670	5670	5730
25°	5495	5616	5677
30°	5420	5515	5662
35°	5292	5431	5553
40°	5086	5331	5355
45°	4932	5108	5116
50°	4770	4986	4891
55°	4545	4634	4601
60°	4250	4293	4216
65°	3790	3887	3763
70°	3252	3263	3172
75°	2575	2569	2470
80°	1725	1677	1612
85°	939	929	868

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5240 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.8	3.7
10°-20°	580.5	10.6
20°-30°	869.7	15.8
30°-40°	1030.8	18.8
40°-50°	1032.7	18.8
50°-60°	876.6	16.0
60°-70°	591.0	10.8
70°-80°	259.7	4.7
80°-90°	42.2	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°	1655.0	30.2
0°-40°	2685.8	48.9
0°-60°	4595.1	83.7
0°-90°	5488.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5488.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2178	2178	2178	2178	2178	
5°	2162	2157	2163	2156	2208	204
15°	2070	2046	2059	2070	2070	577
25°	1851	1861	1891	1916	1912	856
35°	1611	1616	1653	1691	1690	1000
45°	1296	1320	1342	1377	1344	1003
55°	969	962	988	981	981	862
65°	595	587	610	587	591	592
75°	248	243	247	230	238	265
85°	30	30	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°	2177.5	2177.5	2177.5	2177.5	2177.5
2.5°	2196.3	2179.7	2164.3	2182.3	2193.2
5°	2162.0	2157.0	2162.9	2156.4	2208.4
7.5°	2117.6	2137.0	2148.3	2141.2	2144.3
10°	2094.0	2087.3	2112.3	2129.7	2127.2
12.5°	2068.7	2078.8	2080.2	2099.1	2100.7
15°	2070.1	2046.2	2058.9	2069.5	2070.4
17.5°	1989.7	2015.6	2024.3	2048.7	2018.4
20°	1979.9	1961.0	1979.9	2004.9	2000.9
22.5°	1919.4	1898.3	1938.8	1961.0	1959.6
25°	1850.8	1860.9	1891.3	1916.0	1912.1
27.5°	1790.6	1802.4	1845.7	1879.8	1857.8
30°	1744.2	1738.3	1774.9	1805.3	1822.1
32.5°	1661.3	1682.7	1725.4	1755.5	1739.5
35°	1611.0	1615.8	1653.2	1691.4	1690.3
37.5°	1523.0	1545.2	1597.8	1608.5	1598.6
40°	1447.9	1470.1	1517.6	1529.2	1524.4
42.5°	1392.5	1396.5	1437.2	1450.4	1429.4
45°	1296.1	1320.3	1342.2	1376.8	1344.2
47.5°	1214.0	1225.2	1272.5	1281.8	1264.6
50°	1139.5	1143.4	1190.9	1179.4	1168.2
52.5°	1045.9	1062.5	1089.2	1086.9	1073.7
55°	968.8	962.4	987.7	980.9	980.6
57.5°	876.3	887.6	908.4	897.7	880.6
60°	789.7	790.0	797.6	785.5	783.3
62.5°	693.3	696.7	698.4	683.5	707.7
65°	595.2	587.3	610.4	587.0	591.0
67.5°	504.9	508.9	506.6	492.0	497.6
70°	413.3	418.3	414.7	398.1	403.2
72.5°	329.5	323.3	327.3	306.5	316.0
75°	247.7	242.6	247.1	229.7	237.6
77.5°	168.7	172.6	169.8	160.5	165.9
80°	111.3	108.2	108.2	102.9	104.0
82.5°	64.9	61.9	61.0	59.3	61.9
85°	30.4	29.5	30.1	29.2	28.1
87.5°	11.0	11.2	11.2	10.7	10.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)