

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: P562437

Luminaire Tested: FSR-24-4-LD4-1STD-50-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562437
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-1STD-50-UNV-81-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3690.0 lumens
Efficiency: N/A
Efficacy: 110.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

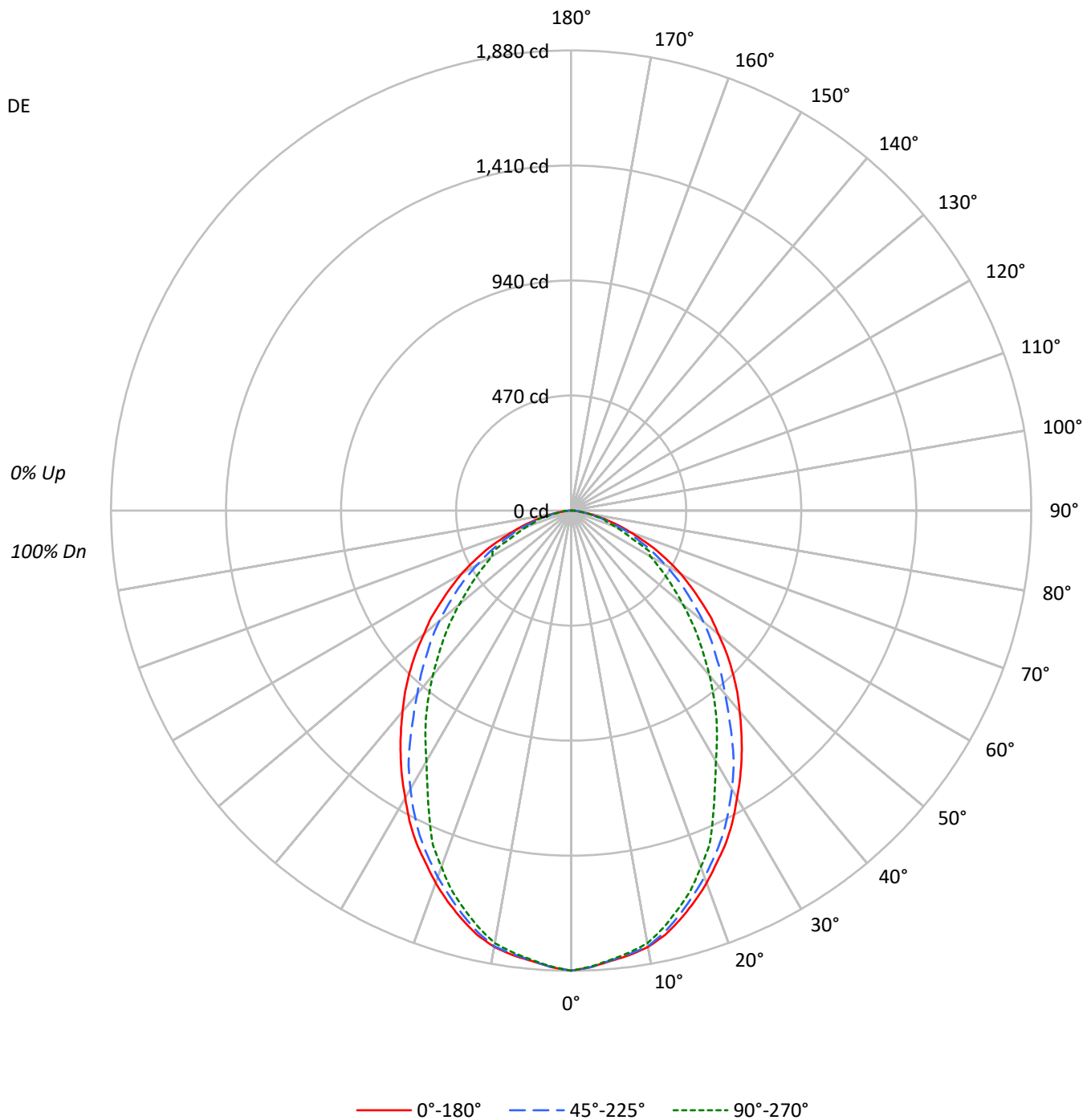
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2529	2529	2529
5°	2495	2492	2489
10°	2473	2470	2452
15°	2406	2382	2349
20°	2318	2281	2218
25°	2223	2174	2039
30°	2107	2039	1837
35°	1995	1884	1699
40°	1882	1717	1546
45°	1774	1588	1398
50°	1642	1474	1246
55°	1519	1335	1116
60°	1392	1193	1000
65°	1224	1045	885
70°	1009	915	752
75°	802	700	734
80°	539	505	471
85°	335	403	469

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1774 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.0	4.7
10°-20°	480.2	13.0
20°-30°	664.8	18.0
30°-40°	708.8	19.2
40°-50°	646.7	17.5
50°-60°	506.6	13.7
60°-70°	330.2	8.9
70°-80°	146.3	4.0
80°-90°	31.4	0.9
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°	1319.9	35.8
0°-40°	2028.8	55.0
0°-60°	3182.1	86.2
0°-90°	3690.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3690.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1880	1880	1880	1880	1880	
5°	1847	1845	1845	1843	1843	175
15°	1728	1728	1710	1693	1686	486
25°	1497	1488	1465	1412	1373	687
35°	1215	1206	1147	1060	1034	759
45°	932	913	834	765	734	718
55°	648	628	569	502	476	581
65°	385	363	328	335	278	379
75°	154	143	135	128	141	165
85°	22	24	26	28	30	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1879.6	1879.6	1879.6	1879.6	1879.6
2.5°	1866.6	1866.6	1866.6	1864.4	1864.4
5°	1847.0	1844.9	1844.9	1842.7	1842.7
7.5°	1831.8	1829.7	1827.5	1825.3	1821.0
10°	1810.1	1810.1	1807.9	1797.1	1794.9
12.5°	1775.3	1773.2	1764.5	1749.3	1744.9
15°	1727.5	1727.5	1710.1	1692.8	1686.2
17.5°	1675.4	1673.2	1651.5	1634.1	1625.4
20°	1618.9	1614.5	1592.8	1564.6	1549.3
22.5°	1555.9	1555.9	1529.8	1492.8	1477.6
25°	1497.2	1488.5	1464.6	1412.4	1373.3
27.5°	1429.8	1416.8	1390.7	1316.8	1271.2
30°	1355.9	1349.4	1312.5	1216.9	1182.1
32.5°	1286.4	1275.5	1236.4	1136.5	1108.2
35°	1214.7	1206.0	1147.3	1060.4	1034.3
37.5°	1143.0	1132.1	1058.2	988.7	956.1
40°	1071.3	1058.2	977.8	914.8	880.1
42.5°	1003.9	986.5	908.3	840.9	801.8
45°	932.2	912.7	834.4	764.9	734.5
47.5°	860.5	843.1	771.4	699.7	664.9
50°	784.4	769.2	704.0	632.3	595.4
52.5°	721.4	697.5	634.5	562.8	532.4
55°	647.6	628.0	569.3	502.0	475.9
57.5°	580.2	560.6	506.3	443.3	421.6
60°	517.2	488.9	443.3	389.0	371.6
62.5°	447.6	425.9	386.8	341.2	362.9
65°	384.6	362.9	328.1	334.6	278.1
67.5°	315.1	304.2	273.8	243.4	234.7
70°	256.4	243.4	232.5	199.9	191.2
72.5°	204.3	191.2	176.0	158.6	152.1
75°	154.3	143.4	134.7	128.2	141.2
77.5°	106.5	102.1	95.6	89.1	86.9
80°	69.5	67.4	65.2	63.0	60.8
82.5°	41.3	41.3	41.3	41.3	41.3
85°	21.7	23.9	26.1	28.2	30.4
87.5°	13.0	13.0	15.2	17.4	19.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)