

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: P562091

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562091
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-LD4-1HI-40-UNV-93-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 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: 4855.0 lumens
Efficiency: N/A
Efficacy: 112.4 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

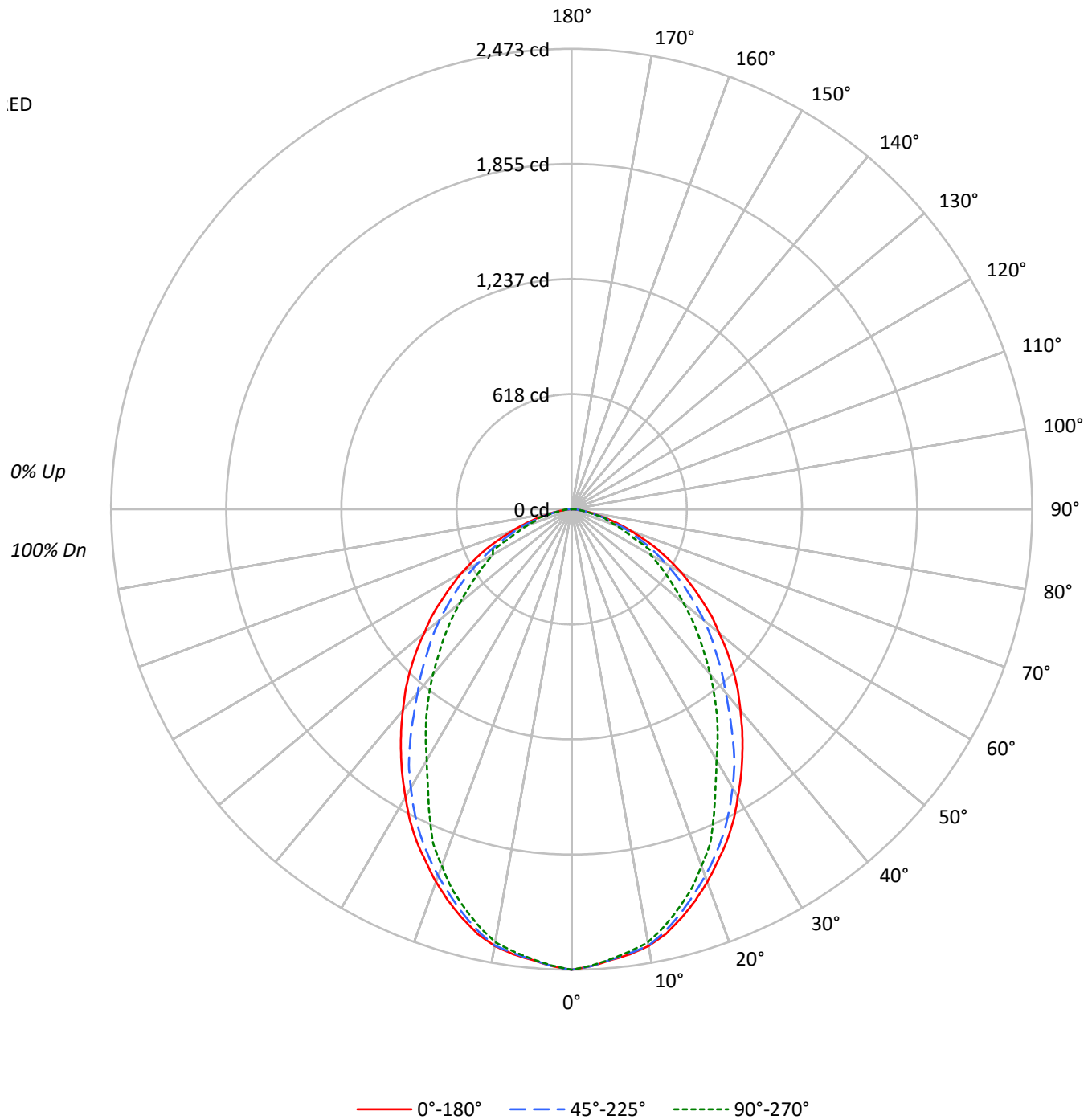
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3328	3328	3328
5°	3282	3278	3275
10°	3254	3250	3227
15°	3166	3134	3090
20°	3050	3001	2919
25°	2924	2861	2682
30°	2772	2683	2416
35°	2625	2480	2235
40°	2476	2260	2034
45°	2334	2089	1839
50°	2160	1939	1640
55°	1999	1757	1469
60°	1831	1569	1316
65°	1611	1374	1165
70°	1327	1203	990
75°	1055	922	966
80°	709	665	621
85°	442	530	618

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2334 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.2	4.7
10°-20°	631.8	13.0
20°-30°	874.7	18.0
30°-40°	932.7	19.2
40°-50°	850.9	17.5
50°-60°	666.6	13.7
60°-70°	434.5	8.9
70°-80°	192.5	4.0
80°-90°	41.3	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°	1736.7	35.8
0°-40°	2669.3	55.0
0°-60°	4186.8	86.2
0°-90°	4855.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4855.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2473	2473	2473	2473	2473	
5°	2430	2427	2427	2424	2424	231
15°	2273	2273	2250	2227	2219	639
25°	1970	1958	1927	1858	1807	904
35°	1598	1587	1510	1395	1361	999
45°	1226	1201	1098	1006	966	945
55°	852	826	749	660	626	764
65°	506	478	432	440	366	499
75°	203	189	177	169	186	218
85°	29	31	34	37	40	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2473.1	2473.1	2473.1	2473.1	2473.1
2.5°	2455.9	2455.9	2455.9	2453.1	2453.1
5°	2430.2	2427.3	2427.3	2424.5	2424.5
7.5°	2410.2	2407.3	2404.5	2401.6	2395.9
10°	2381.6	2381.6	2378.7	2364.4	2361.6
12.5°	2335.8	2333.0	2321.5	2301.5	2295.8
15°	2272.9	2272.9	2250.1	2227.2	2218.6
17.5°	2204.3	2201.5	2172.9	2150.0	2138.6
20°	2130.0	2124.3	2095.7	2058.5	2038.5
22.5°	2047.1	2047.1	2012.8	1964.2	1944.1
25°	1969.9	1958.4	1927.0	1858.4	1806.9
27.5°	1881.3	1864.1	1829.8	1732.6	1672.5
30°	1784.0	1775.5	1726.9	1601.1	1555.3
32.5°	1692.6	1678.3	1626.8	1495.3	1458.1
35°	1598.2	1586.8	1509.6	1395.2	1360.9
37.5°	1503.9	1489.6	1392.4	1300.9	1258.0
40°	1409.5	1392.4	1286.6	1203.7	1157.9
42.5°	1320.9	1298.0	1195.1	1106.4	1055.0
45°	1226.5	1200.8	1097.9	1006.4	966.4
47.5°	1132.2	1109.3	1015.0	920.6	874.9
50°	1032.1	1012.1	926.3	832.0	783.4
52.5°	949.2	917.8	834.8	740.5	700.5
55°	852.0	826.3	749.1	660.4	626.1
57.5°	763.4	737.6	666.2	583.2	554.7
60°	680.5	643.3	583.2	511.8	488.9
62.5°	589.0	560.4	508.9	448.9	477.5
65°	506.1	477.5	431.7	440.3	366.0
67.5°	414.6	400.3	360.2	320.2	308.8
70°	337.4	320.2	305.9	263.0	251.6
72.5°	268.8	251.6	231.6	208.7	200.1
75°	203.0	188.7	177.3	168.7	185.8
77.5°	140.1	134.4	125.8	117.2	114.4
80°	91.5	88.6	85.8	82.9	80.1
82.5°	54.3	54.3	54.3	54.3	54.3
85°	28.6	31.4	34.3	37.2	40.0
87.5°	17.2	17.2	20.0	22.9	25.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)