

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: P562698

Luminaire Tested: FSR-24-4-LD4-2LO-35-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562698
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-LD4-2LO-35-UNV-81-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4644.0 lumens
Efficiency: N/A
Efficacy: 99.2 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

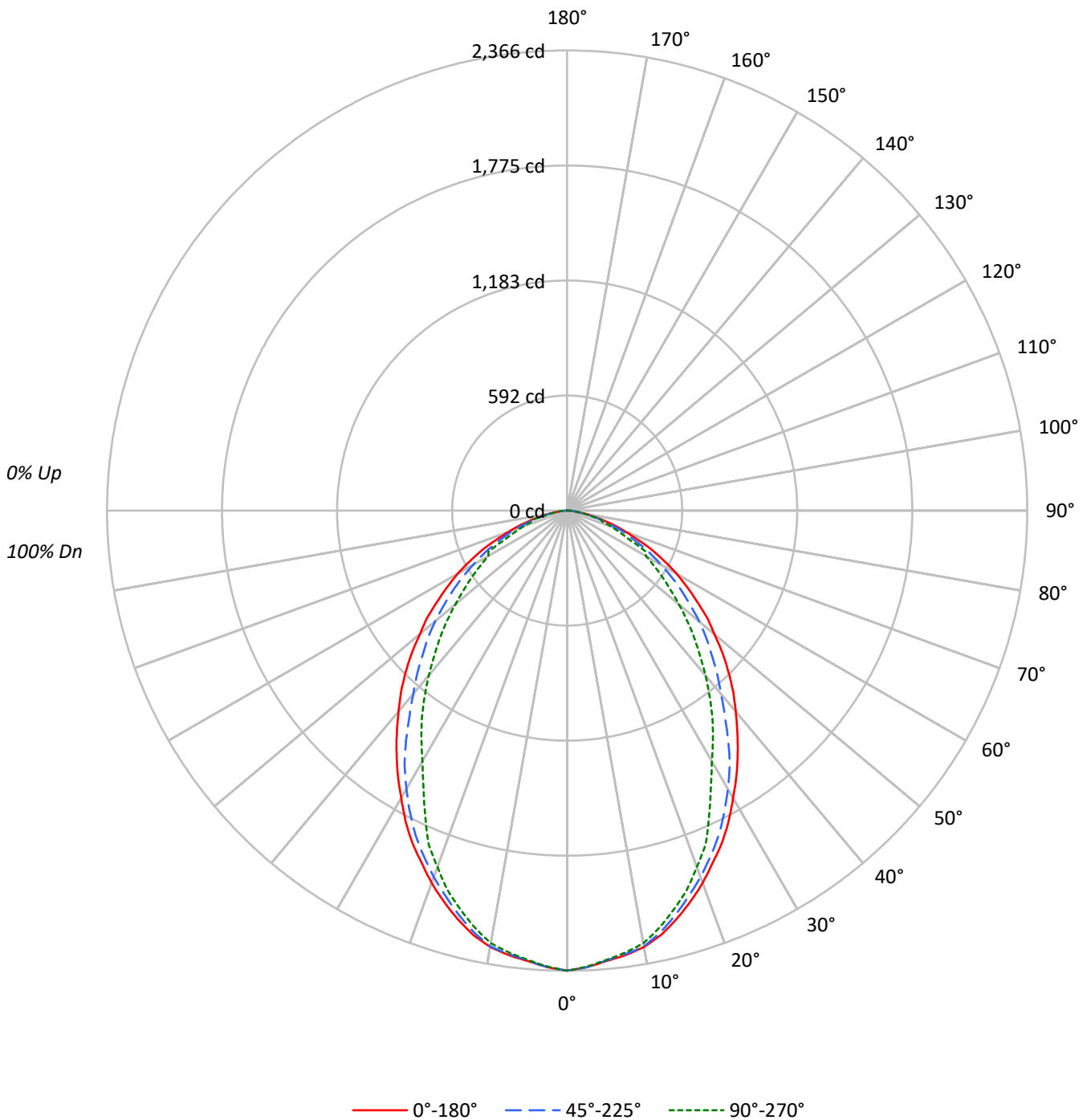
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3183	3183	3183
5°	3140	3136	3132
10°	3112	3109	3086
15°	3029	2998	2956
20°	2917	2870	2792
25°	2797	2736	2566
30°	2651	2566	2311
35°	2511	2372	2138
40°	2368	2162	1945
45°	2232	1998	1759
50°	2067	1855	1568
55°	1912	1681	1405
60°	1752	1501	1258
65°	1541	1315	1115
70°	1269	1151	947
75°	1010	882	924
80°	678	635	594
85°	421	506	591

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2232 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.2	4.7
10°-20°	604.3	13.0
20°-30°	836.7	18.0
30°-40°	892.1	19.2
40°-50°	813.9	17.5
50°-60°	637.6	13.7
60°-70°	415.6	8.9
70°-80°	184.1	4.0
80°-90°	39.5	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°	1661.2	35.8
0°-40°	2553.3	55.0
0°-60°	4004.8	86.2
0°-90°	4644.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4644.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2366	2366	2366	2366	2366	
5°	2325	2322	2322	2319	2319	221
15°	2174	2174	2152	2130	2122	611
25°	1884	1873	1843	1778	1728	865
35°	1529	1518	1444	1335	1302	956
45°	1173	1149	1050	963	924	904
55°	815	790	716	632	599	731
65°	484	457	413	421	350	477
75°	194	180	170	161	178	208
85°	27	30	33	36	38	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2365.6	2365.6	2365.6	2365.6	2365.6
2.5°	2349.2	2349.2	2349.2	2346.4	2346.4
5°	2324.6	2321.8	2321.8	2319.1	2319.1
7.5°	2305.4	2302.7	2300.0	2297.2	2291.8
10°	2278.1	2278.1	2275.3	2261.7	2258.9
12.5°	2234.3	2231.6	2220.6	2201.5	2196.0
15°	2174.2	2174.2	2152.3	2130.4	2122.2
17.5°	2108.5	2105.8	2078.4	2056.6	2045.6
20°	2037.4	2031.9	2004.6	1969.0	1949.9
22.5°	1958.1	1958.1	1925.3	1878.8	1859.7
25°	1884.3	1873.3	1843.2	1777.6	1728.4
27.5°	1799.5	1783.1	1750.3	1657.3	1599.9
30°	1706.5	1698.3	1651.8	1531.5	1487.7
32.5°	1619.0	1605.3	1556.1	1430.3	1394.7
35°	1528.7	1517.8	1444.0	1334.6	1301.8
37.5°	1438.5	1424.8	1331.8	1244.3	1203.3
40°	1348.3	1331.8	1230.7	1151.3	1107.6
42.5°	1263.5	1241.6	1143.1	1058.4	1009.1
45°	1173.2	1148.6	1050.2	962.6	924.4
47.5°	1083.0	1061.1	970.8	880.6	836.8
50°	987.3	968.1	886.1	795.8	749.3
52.5°	907.9	877.9	798.6	708.3	670.0
55°	815.0	790.4	716.5	631.7	598.9
57.5°	730.2	705.6	637.2	557.9	530.5
60°	650.9	615.3	557.9	489.5	467.6
62.5°	563.4	536.0	486.8	429.4	456.7
65°	484.1	456.7	413.0	421.2	350.1
67.5°	396.5	382.9	344.6	306.3	295.4
70°	322.7	306.3	292.6	251.6	240.7
72.5°	257.1	240.7	221.5	199.6	191.4
75°	194.2	180.5	169.6	161.4	177.8
77.5°	134.0	128.5	120.3	112.1	109.4
80°	87.5	84.8	82.0	79.3	76.6
82.5°	52.0	52.0	52.0	52.0	52.0
85°	27.3	30.1	32.8	35.6	38.3
87.5°	16.4	16.4	19.1	21.9	24.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)