

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: P563311

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563311
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-LD4-3LO-35-UNV-93-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8371.0 lumens
Efficiency: N/A
Efficacy: 119.2 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

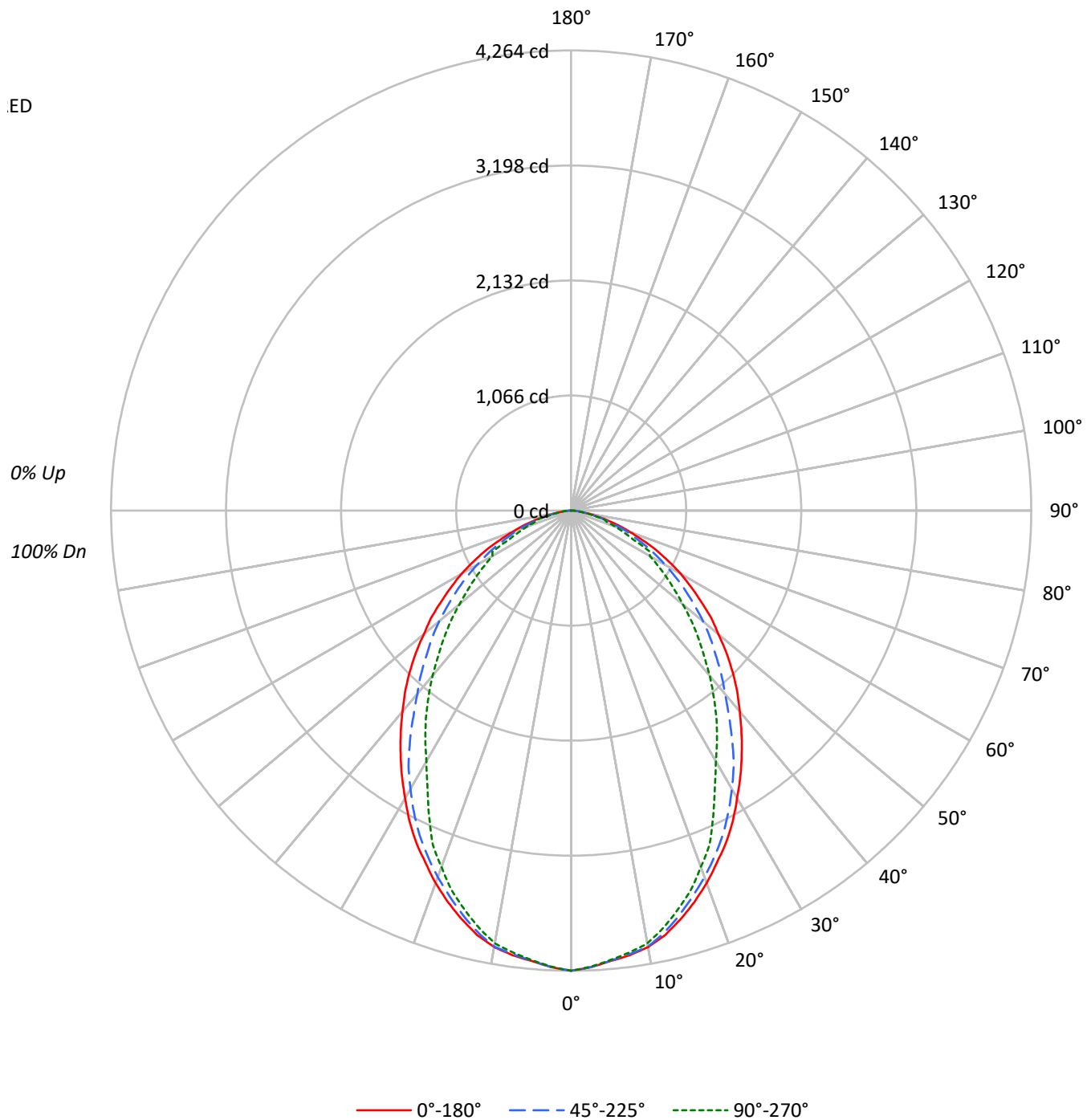
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5737	5737	5737
5°	5659	5653	5646
10°	5610	5604	5563
15°	5459	5404	5328
20°	5258	5174	5033
25°	5042	4933	4625
30°	4779	4626	4166
35°	4526	4275	3854
40°	4269	3896	3507
45°	4024	3602	3170
50°	3725	3343	2827
55°	3446	3030	2533
60°	3157	2706	2268
65°	2778	2370	2009
70°	2288	2075	1707
75°	1820	1589	1666
80°	1222	1146	1069
85°	761	914	1065

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4024 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	396.9	4.7
10°-20°	1089.3	13.0
20°-30°	1508.1	18.0
30°-40°	1608.1	19.2
40°-50°	1467.0	17.5
50°-60°	1149.3	13.7
60°-70°	749.1	8.9
70°-80°	331.9	4.0
80°-90°	71.3	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°	2994.4	35.8
0°-40°	4602.5	55.0
0°-60°	7218.8	86.2
0°-90°	8371.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8371.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4264	4264	4264	4264	4264	
5°	4190	4185	4185	4180	4180	398
15°	3919	3919	3880	3840	3825	1102
25°	3396	3377	3322	3204	3116	1559
35°	2756	2736	2603	2406	2346	1723
45°	2115	2070	1893	1735	1666	1629
55°	1469	1425	1292	1139	1080	1318
65°	872	823	744	759	631	860
75°	350	325	306	291	320	375
85°	49	54	59	64	69	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4264.1	4264.1	4264.1	4264.1	4264.1
2.5°	4234.5	4234.5	4234.5	4229.6	4229.6
5°	4190.1	4185.2	4185.2	4180.3	4180.3
7.5°	4155.6	4150.7	4145.8	4140.8	4131.0
10°	4106.3	4106.3	4101.4	4076.8	4071.8
12.5°	4027.5	4022.5	4002.8	3968.3	3958.4
15°	3919.0	3919.0	3879.6	3840.1	3825.3
17.5°	3800.7	3795.8	3746.5	3707.0	3687.3
20°	3672.5	3662.7	3613.4	3549.3	3514.8
22.5°	3529.6	3529.6	3470.4	3386.6	3352.1
25°	3396.5	3376.8	3322.5	3204.2	3115.5
27.5°	3243.7	3214.1	3154.9	2987.3	2883.8
30°	3076.0	3061.3	2977.5	2760.6	2681.7
32.5°	2918.3	2893.7	2804.9	2578.2	2514.1
35°	2755.6	2735.9	2602.8	2405.6	2346.5
37.5°	2593.0	2568.3	2400.7	2243.0	2169.0
40°	2430.3	2400.7	2218.3	2075.3	1996.5
42.5°	2277.5	2238.0	2060.6	1907.7	1819.0
45°	2114.8	2070.4	1893.0	1735.2	1666.2
47.5°	1952.1	1912.7	1750.0	1587.3	1508.4
50°	1779.6	1745.1	1597.2	1434.5	1350.7
52.5°	1636.6	1582.4	1439.4	1276.8	1207.7
55°	1469.0	1424.6	1291.5	1138.7	1079.6
57.5°	1316.2	1271.8	1148.6	1005.6	956.3
60°	1173.2	1109.2	1005.6	882.4	843.0
62.5°	1015.5	966.2	877.5	773.9	823.2
65°	872.5	823.2	744.4	759.2	631.0
67.5°	714.8	690.1	621.1	552.1	532.4
70°	581.7	552.1	527.5	453.5	433.8
72.5°	463.4	433.8	399.3	359.9	345.1
75°	350.0	325.4	305.6	290.8	320.4
77.5°	241.5	231.7	216.9	202.1	197.2
80°	157.7	152.8	147.9	143.0	138.0
82.5°	93.7	93.7	93.7	93.7	93.7
85°	49.3	54.2	59.2	64.1	69.0
87.5°	29.6	29.6	34.5	39.4	44.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)