

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: P563811

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-93-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563811
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-LD4-4HI-50-UNV-93-85-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19314.0 lumens
Efficiency: N/A
Efficacy: 111.8 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

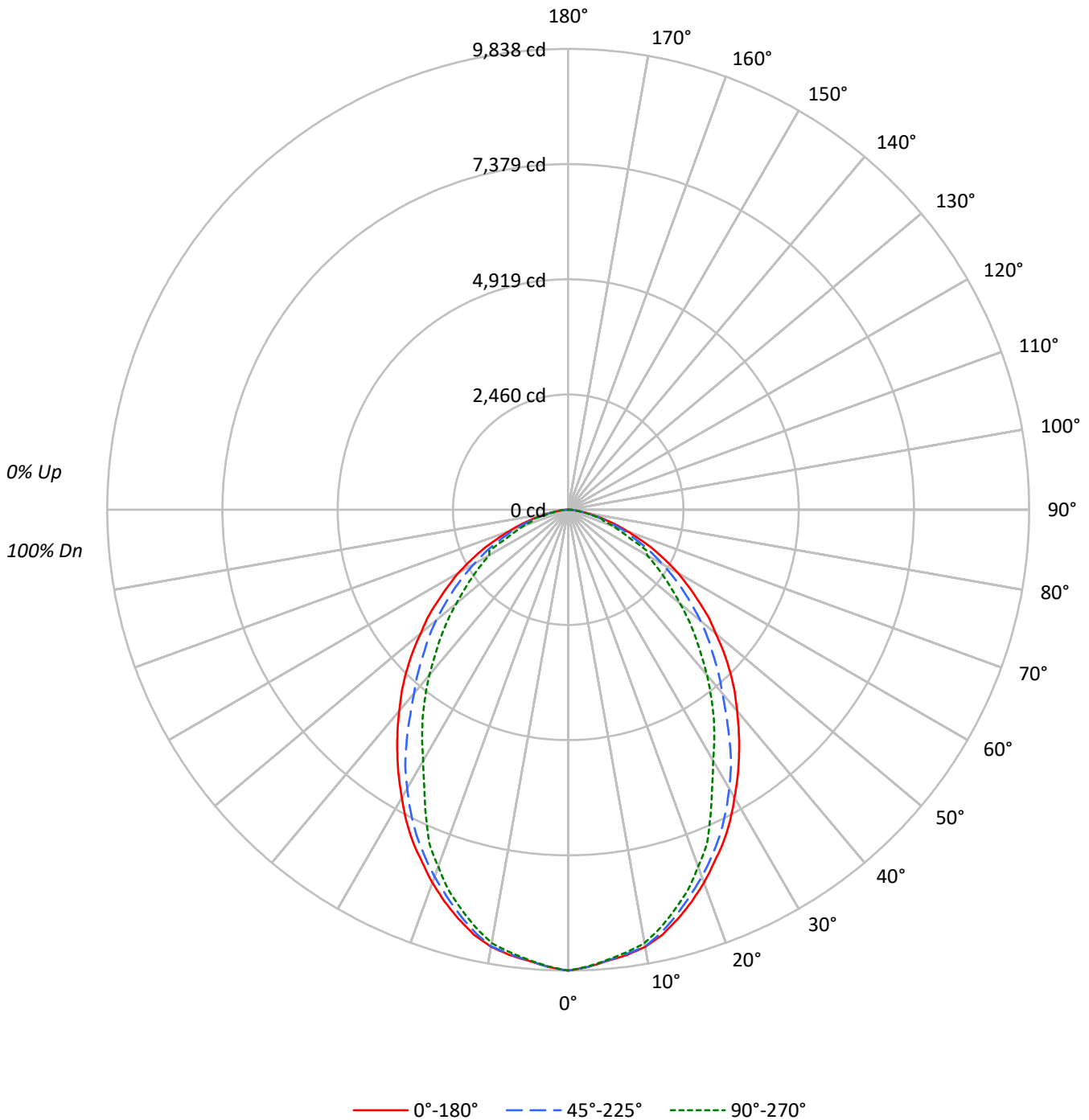
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	13237	13237	13237
5°	13057	13042	13027
10°	12944	12929	12835
15°	12595	12468	12294
20°	12133	11937	11612
25°	11634	11381	10671
30°	11026	10673	9613
35°	10443	9864	8893
40°	9849	8990	8091
45°	9284	8311	7315
50°	8595	7714	6523
55°	7951	6990	5843
60°	7284	6244	5234
65°	6409	5468	4635
70°	5280	4788	3937
75°	4198	3666	3843
80°	2820	2644	2468
85°	1755	2107	2458

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9284 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	915.8	4.7
10°-20°	2513.4	13.0
20°-30°	3479.6	18.0
30°-40°	3710.3	19.2
40°-50°	3384.8	17.5
50°-60°	2651.7	13.7
60°-70°	1728.3	8.9
70°-80°	765.7	4.0
80°-90°	164.4	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°	6908.8	35.8
0°-40°	10619.0	55.0
0°-60°	16655.6	86.2
0°-90°	19314.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19314.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9838	9838	9838	9838	9838	
5°	9668	9656	9656	9645	9645	918
15°	9042	9042	8951	8860	8826	2542
25°	7836	7791	7666	7393	7188	3598
35°	6358	6312	6005	5550	5414	3975
45°	4879	4777	4368	4004	3844	3759
55°	3389	3287	2980	2627	2491	3040
65°	2013	1899	1717	1752	1456	1984
75°	808	751	705	671	739	865
85°	114	125	136	148	159	158
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9838.3	9838.3	9838.3	9838.3	9838.3
2.5°	9770.1	9770.1	9770.1	9758.7	9758.7
5°	9667.7	9656.3	9656.3	9644.9	9644.9
7.5°	9588.1	9576.7	9565.3	9553.9	9531.2
10°	9474.3	9474.3	9463.0	9406.1	9394.7
12.5°	9292.4	9281.0	9235.5	9155.9	9133.1
15°	9042.1	9042.1	8951.1	8860.2	8826.0
17.5°	8769.2	8757.8	8644.0	8553.1	8507.6
20°	8473.4	8450.7	8337.0	8189.1	8109.5
22.5°	8143.6	8143.6	8007.1	7813.8	7734.1
25°	7836.5	7791.0	7665.9	7392.9	7188.2
27.5°	7483.9	7415.7	7279.2	6892.5	6653.6
30°	7097.2	7063.1	6869.7	6369.3	6187.3
32.5°	6733.3	6676.4	6471.7	5948.5	5800.6
35°	6357.9	6312.4	6005.3	5550.4	5413.9
37.5°	5982.6	5925.7	5539.0	5175.1	5004.4
40°	5607.3	5539.0	5118.2	4788.3	4606.4
42.5°	5254.7	5163.7	4754.2	4401.6	4196.9
45°	4879.3	4777.0	4367.5	4003.6	3844.3
47.5°	4504.0	4413.0	4037.7	3662.3	3480.4
50°	4105.9	4026.3	3685.1	3309.8	3116.4
52.5°	3776.1	3651.0	3321.1	2945.8	2786.6
55°	3389.4	3287.0	2979.9	2627.3	2490.9
57.5°	3036.8	2934.4	2650.1	2320.2	2206.5
60°	2707.0	2559.1	2320.2	2035.9	1944.9
62.5°	2343.0	2229.3	2024.5	1785.7	1899.4
65°	2013.2	1899.4	1717.4	1751.6	1455.8
67.5°	1649.2	1592.3	1433.1	1273.9	1228.4
70°	1342.1	1273.9	1217.0	1046.4	1000.9
72.5°	1069.1	1000.9	921.3	830.3	796.2
75°	807.5	750.7	705.2	671.1	739.3
77.5°	557.3	534.6	500.4	466.3	454.9
80°	364.0	352.6	341.2	329.8	318.5
82.5°	216.1	216.1	216.1	216.1	216.1
85°	113.7	125.1	136.5	147.9	159.2
87.5°	68.2	68.2	79.6	91.0	102.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)