

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: P563623

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563623
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-LD4-3STD-50-UNV-93-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11297.0 lumens
Efficiency: N/A
Efficacy: 113.1 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

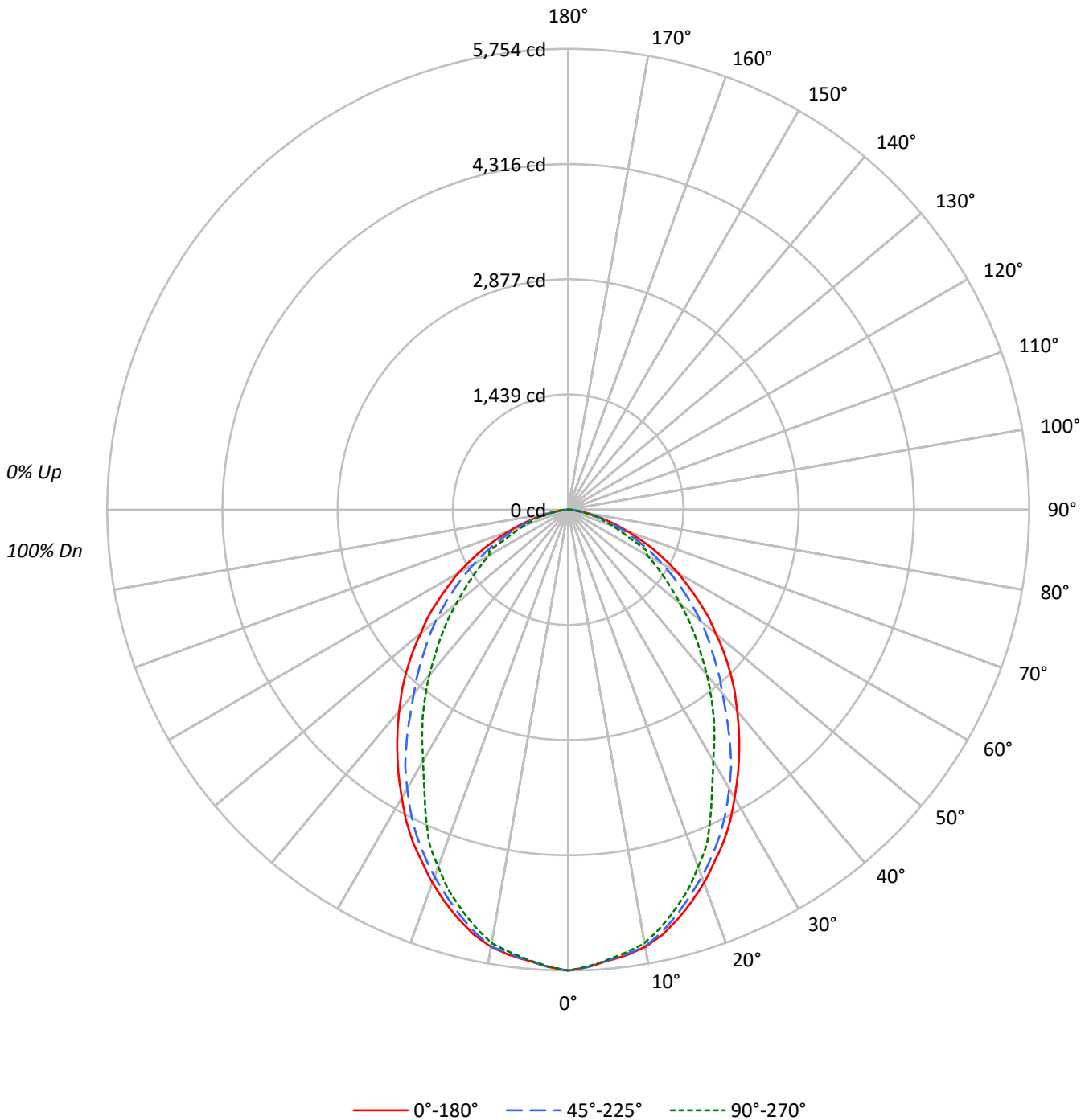
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7743	7743	7743
5°	7638	7628	7619
10°	7571	7562	7508
15°	7367	7293	7191
20°	7096	6982	6792
25°	6805	6657	6242
30°	6450	6243	5623
35°	6108	5770	5201
40°	5761	5258	4732
45°	5431	4861	4279
50°	5027	4512	3816
55°	4651	4089	3418
60°	4261	3652	3061
65°	3749	3198	2711
70°	3088	2800	2303
75°	2455	2144	2248
80°	1650	1547	1444
85°	1027	1232	1437

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5431 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	535.7	4.7
10°-20°	1470.1	13.0
20°-30°	2035.3	18.0
30°-40°	2170.2	19.2
40°-50°	1979.8	17.5
50°-60°	1551.0	13.7
60°-70°	1010.9	8.9
70°-80°	447.9	4.0
80°-90°	96.2	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°	4041.0	35.8
0°-40°	6211.2	55.0
0°-60°	9742.1	86.2
0°-90°	11297.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11297.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5754	5754	5754	5754	5754	
5°	5655	5648	5648	5641	5641	537
15°	5289	5289	5236	5182	5162	1487
25°	4584	4557	4484	4324	4204	2104
35°	3719	3692	3513	3246	3167	2325
45°	2854	2794	2555	2342	2249	2198
55°	1982	1923	1743	1537	1457	1778
65°	1178	1111	1004	1024	852	1160
75°	472	439	412	392	432	506
85°	66	73	80	86	93	92
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5754.5	5754.5	5754.5	5754.5	5754.5
2.5°	5714.6	5714.6	5714.6	5708.0	5708.0
5°	5654.8	5648.1	5648.1	5641.4	5641.4
7.5°	5608.2	5601.5	5594.9	5588.2	5574.9
10°	5541.7	5541.7	5535.0	5501.7	5495.1
12.5°	5435.2	5428.6	5402.0	5355.4	5342.1
15°	5288.9	5288.9	5235.6	5182.4	5162.5
17.5°	5129.2	5122.5	5056.0	5002.8	4976.2
20°	4956.2	4942.9	4876.4	4789.9	4743.3
22.5°	4763.3	4763.3	4683.5	4570.4	4523.8
25°	4583.7	4557.1	4483.9	4324.2	4204.5
27.5°	4377.4	4337.5	4257.7	4031.5	3891.8
30°	4151.3	4131.3	4018.2	3725.5	3619.0
32.5°	3938.4	3905.1	3785.4	3479.3	3392.9
35°	3718.8	3692.2	3512.6	3246.5	3166.7
37.5°	3499.3	3466.0	3239.8	3027.0	2927.2
40°	3279.8	3239.8	2993.7	2800.8	2694.3
42.5°	3073.5	3020.3	2780.8	2574.6	2454.8
45°	2854.0	2794.1	2554.6	2341.7	2248.6
47.5°	2634.4	2581.2	2361.7	2142.2	2035.7
50°	2401.6	2355.0	2155.5	1935.9	1822.8
52.5°	2208.7	2135.5	1942.6	1723.0	1629.9
55°	1982.5	1922.6	1743.0	1536.8	1456.9
57.5°	1776.3	1716.4	1550.1	1357.1	1290.6
60°	1583.3	1496.8	1357.1	1190.8	1137.6
62.5°	1370.4	1303.9	1184.2	1044.5	1111.0
65°	1177.5	1111.0	1004.5	1024.5	851.5
67.5°	964.6	931.4	838.2	745.1	718.5
70°	785.0	745.1	711.8	612.0	585.4
72.5°	625.3	585.4	538.9	485.6	465.7
75°	472.3	439.1	412.5	392.5	432.4
77.5°	326.0	312.7	292.7	272.8	266.1
80°	212.9	206.2	199.6	192.9	186.3
82.5°	126.4	126.4	126.4	126.4	126.4
85°	66.5	73.2	79.8	86.5	93.1
87.5°	39.9	39.9	46.6	53.2	59.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)