

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: P563810

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563810
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-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16803.0 lumens
Efficiency: N/A
Efficacy: 97.2 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

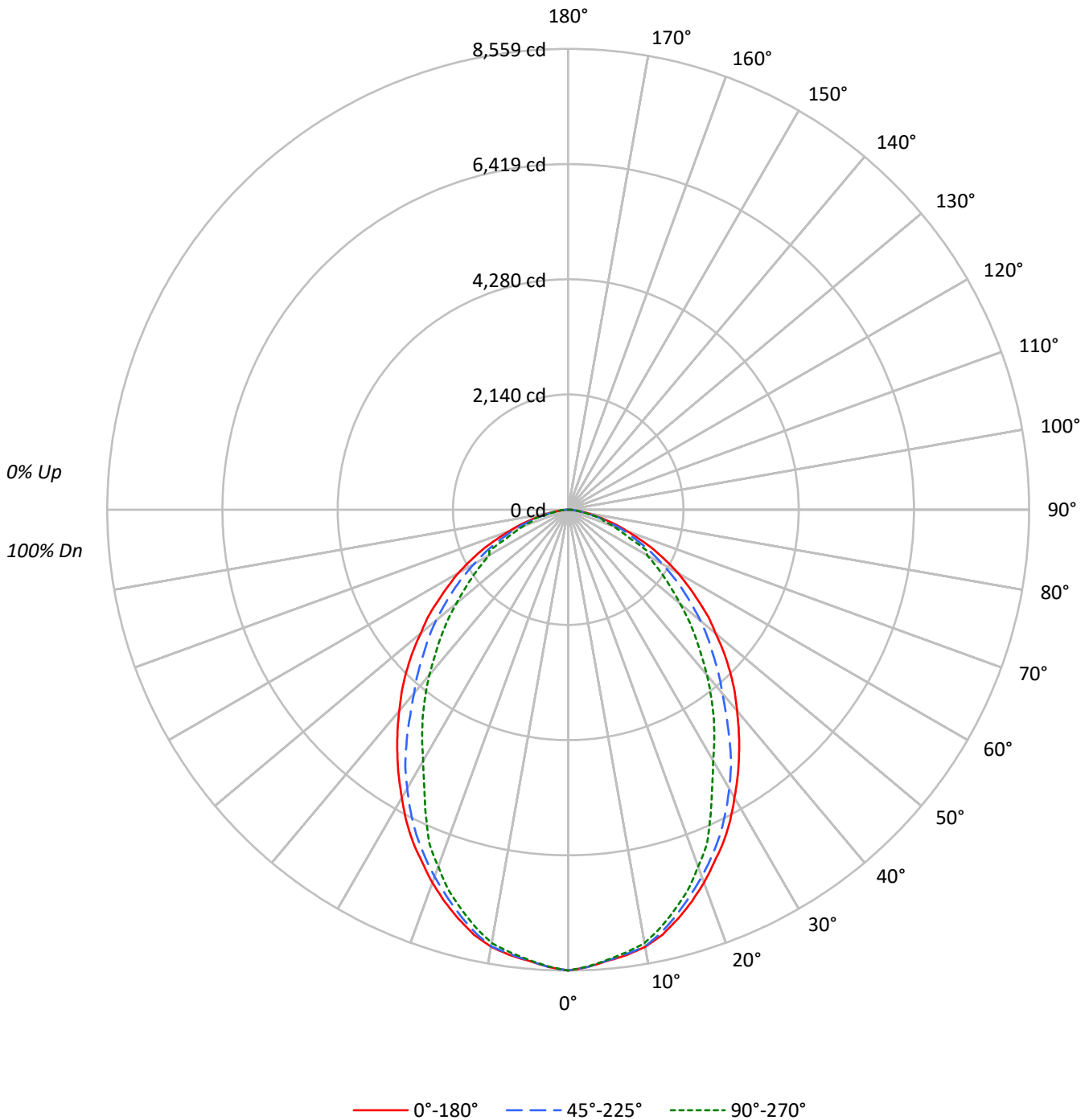
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11516	11516	11516
5°	11360	11346	11333
10°	11261	11248	11167
15°	10958	10847	10696
20°	10555	10385	10102
25°	10121	9901	9284
30°	9593	9285	8363
35°	9085	8582	7736
40°	8568	7821	7039
45°	8077	7230	6364
50°	7477	6711	5675
55°	6917	6081	5083
60°	6337	5432	4553
65°	5576	4757	4032
70°	4593	4165	3426
75°	3652	3189	3344
80°	2453	2300	2147
85°	1528	1832	2138

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8077 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	796.7	4.7
10°-20°	2186.6	13.0
20°-30°	3027.2	18.0
30°-40°	3227.9	19.2
40°-50°	2944.8	17.5
50°-60°	2307.0	13.7
60°-70°	1503.6	8.9
70°-80°	666.2	4.0
80°-90°	143.0	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°	6010.6	35.8
0°-40°	9238.5	55.0
0°-60°	14490.2	86.2
0°-90°	16803.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16803.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8559	8559	8559	8559	8559	
5°	8411	8401	8401	8391	8391	798
15°	7867	7867	7787	7708	7679	2212
25°	6818	6778	6669	6432	6254	3130
35°	5531	5492	5225	4829	4710	3458
45°	4245	4156	3800	3483	3344	3270
55°	2949	2860	2592	2286	2167	2645
65°	1751	1652	1494	1524	1267	1726
75°	702	653	614	584	643	753
85°	99	109	119	129	138	137
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8559.2	8559.2	8559.2	8559.2	8559.2
2.5°	8499.9	8499.9	8499.9	8490.0	8490.0
5°	8410.8	8400.9	8400.9	8391.0	8391.0
7.5°	8341.5	8331.6	8321.7	8311.8	8292.1
10°	8242.6	8242.6	8232.7	8183.2	8173.3
12.5°	8084.3	8074.4	8034.8	7965.5	7945.7
15°	7866.6	7866.6	7787.4	7708.2	7678.6
17.5°	7629.1	7619.2	7520.2	7441.1	7401.5
20°	7371.8	7352.0	7253.1	7124.4	7055.2
22.5°	7084.9	7084.9	6966.1	6797.9	6728.6
25°	6817.7	6778.1	6669.3	6431.8	6253.7
27.5°	6510.9	6451.6	6332.8	5996.4	5788.6
30°	6174.5	6144.8	5976.6	5541.2	5382.9
32.5°	5857.9	5808.4	5630.3	5175.1	5046.5
35°	5531.3	5491.8	5224.6	4828.8	4710.0
37.5°	5204.8	5155.3	4818.9	4502.3	4353.8
40°	4878.3	4818.9	4452.8	4165.8	4007.5
42.5°	4571.5	4492.4	4136.1	3829.4	3651.3
45°	4245.0	4155.9	3799.7	3483.1	3344.5
47.5°	3918.4	3839.3	3512.7	3186.2	3027.9
50°	3572.1	3502.8	3206.0	2879.5	2711.2
52.5°	3285.2	3176.3	2889.4	2562.8	2424.3
55°	2948.7	2859.7	2592.5	2285.8	2167.0
57.5°	2642.0	2552.9	2305.5	2018.6	1919.6
60°	2355.0	2226.4	2018.6	1771.2	1692.1
62.5°	2038.4	1939.4	1761.3	1553.5	1652.5
65°	1751.4	1652.5	1494.2	1523.8	1266.6
67.5°	1434.8	1385.3	1246.8	1108.2	1068.7
70°	1167.6	1108.2	1058.8	910.3	870.8
72.5°	930.1	870.8	801.5	722.3	692.7
75°	702.5	653.1	613.5	583.8	643.2
77.5°	484.9	465.1	435.4	405.7	395.8
80°	316.6	306.7	296.9	287.0	277.1
82.5°	188.0	188.0	188.0	188.0	188.0
85°	99.0	108.8	118.7	128.6	138.5
87.5°	59.4	59.4	69.3	79.2	89.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)