

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: P563746

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563746
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15957.0 lumens
Efficiency: N/A
Efficacy: 92.3 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

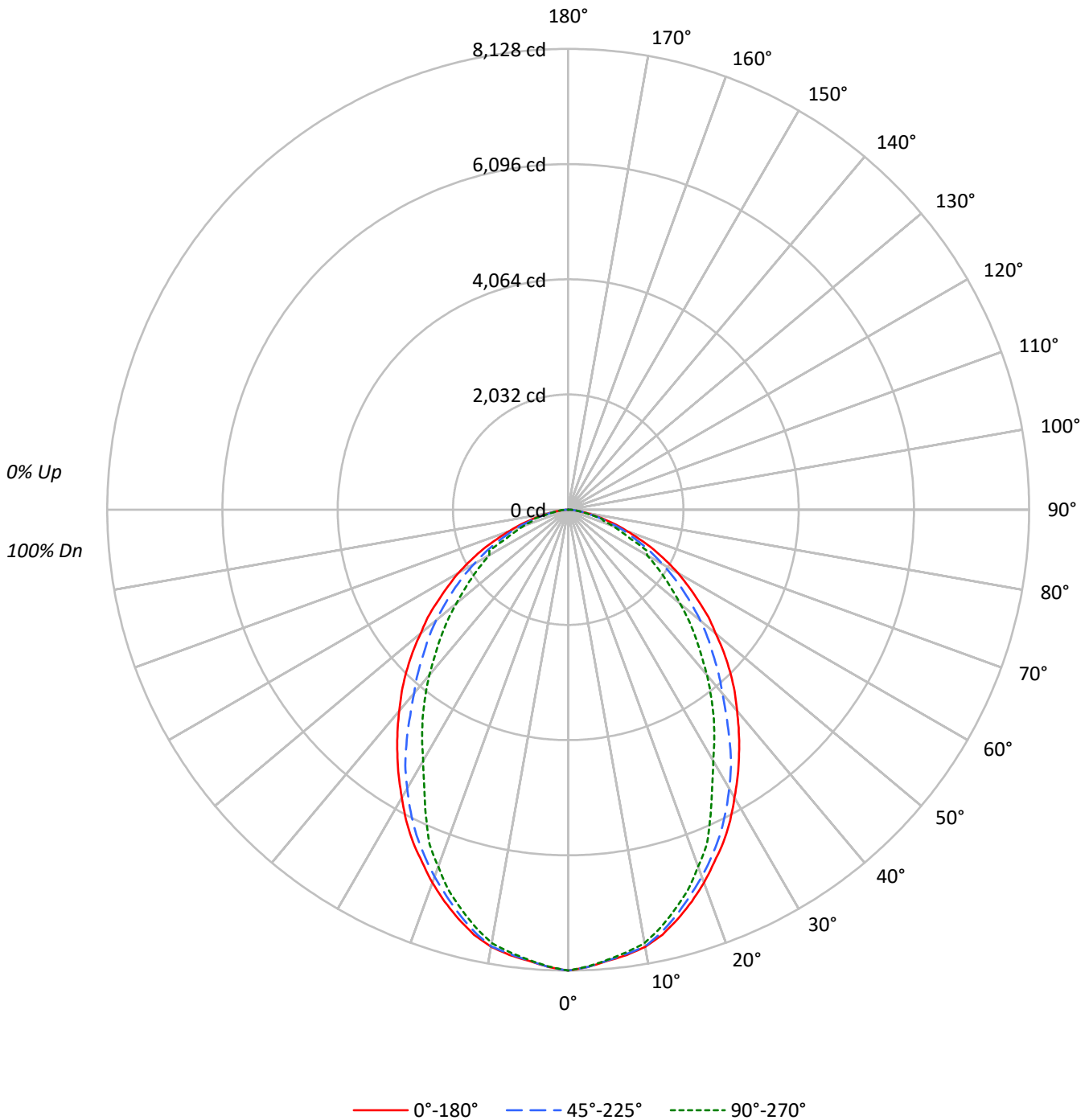
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	10937	10937	10937
5°	10788	10775	10762
10°	10694	10682	10605
15°	10406	10301	10157
20°	10024	9862	9593
25°	9612	9403	8817
30°	9110	8818	7942
35°	8628	8149	7347
40°	8137	7427	6684
45°	7671	6866	6044
50°	7101	6373	5389
55°	6569	5775	4827
60°	6018	5159	4324
65°	5295	4517	3829
70°	4362	3956	3253
75°	3468	3029	3175
80°	2330	2184	2039
85°	1451	1741	2032

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7671 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	756.6	4.7
10°-20°	2076.5	13.0
20°-30°	2874.8	18.0
30°-40°	3065.4	19.2
40°-50°	2796.5	17.5
50°-60°	2190.9	13.7
60°-70°	1427.9	8.9
70°-80°	632.6	4.0
80°-90°	135.8	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°	5708.0	35.8
0°-40°	8773.3	55.0
0°-60°	13760.7	86.2
0°-90°	15957.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15957.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8128	8128	8128	8128	8128	
5°	7987	7978	7978	7968	7968	758
15°	7470	7470	7395	7320	7292	2100
25°	6474	6437	6334	6108	5939	2972
35°	5253	5215	4962	4586	4473	3284
45°	4031	3947	3608	3308	3176	3105
55°	2800	2716	2462	2171	2058	2512
65°	1663	1569	1419	1447	1203	1639
75°	667	620	583	554	611	715
85°	94	103	113	122	132	130
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8128.3	8128.3	8128.3	8128.3	8128.3
2.5°	8071.9	8071.9	8071.9	8062.5	8062.5
5°	7987.3	7977.9	7977.9	7968.5	7968.5
7.5°	7921.6	7912.2	7902.8	7893.4	7874.6
10°	7827.6	7827.6	7818.2	7771.2	7761.8
12.5°	7677.2	7667.8	7630.2	7564.5	7545.7
15°	7470.5	7470.5	7395.3	7320.2	7292.0
17.5°	7245.0	7235.6	7141.6	7066.4	7028.9
20°	7000.7	6981.9	6887.9	6765.7	6700.0
22.5°	6728.2	6728.2	6615.4	6455.6	6389.9
25°	6474.4	6436.8	6333.5	6108.0	5938.8
27.5°	6183.1	6126.8	6014.0	5694.5	5497.2
30°	5863.6	5835.4	5675.7	5262.2	5111.9
32.5°	5562.9	5516.0	5346.8	4914.6	4792.4
35°	5252.8	5215.3	4961.5	4585.7	4472.9
37.5°	4942.7	4895.8	4576.3	4275.6	4134.6
40°	4632.7	4576.3	4228.6	3956.1	3805.7
42.5°	4341.3	4266.2	3927.9	3636.6	3467.4
45°	4031.3	3946.7	3608.4	3307.7	3176.1
47.5°	3721.2	3646.0	3335.9	3025.8	2875.4
50°	3392.3	3326.5	3044.6	2734.5	2574.7
52.5°	3119.8	3016.4	2743.9	2433.8	2302.2
55°	2800.3	2715.7	2462.0	2170.7	2057.9
57.5°	2509.0	2424.4	2189.5	1917.0	1823.0
60°	2236.5	2114.3	1917.0	1682.0	1606.9
62.5°	1935.8	1841.8	1672.6	1475.3	1569.3
65°	1663.2	1569.3	1418.9	1447.1	1202.8
67.5°	1362.5	1315.6	1184.0	1052.4	1014.9
70°	1108.8	1052.4	1005.5	864.5	826.9
72.5°	883.3	826.9	761.1	686.0	657.8
75°	667.2	620.2	582.6	554.4	610.8
77.5°	460.4	441.7	413.5	385.3	375.9
80°	300.7	291.3	281.9	272.5	263.1
82.5°	178.5	178.5	178.5	178.5	178.5
85°	94.0	103.4	112.8	122.2	131.6
87.5°	56.4	56.4	65.8	75.2	84.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)