

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: P563819

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563819
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-93-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19751.0 lumens
Efficiency: N/A
Efficacy: 114.3 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

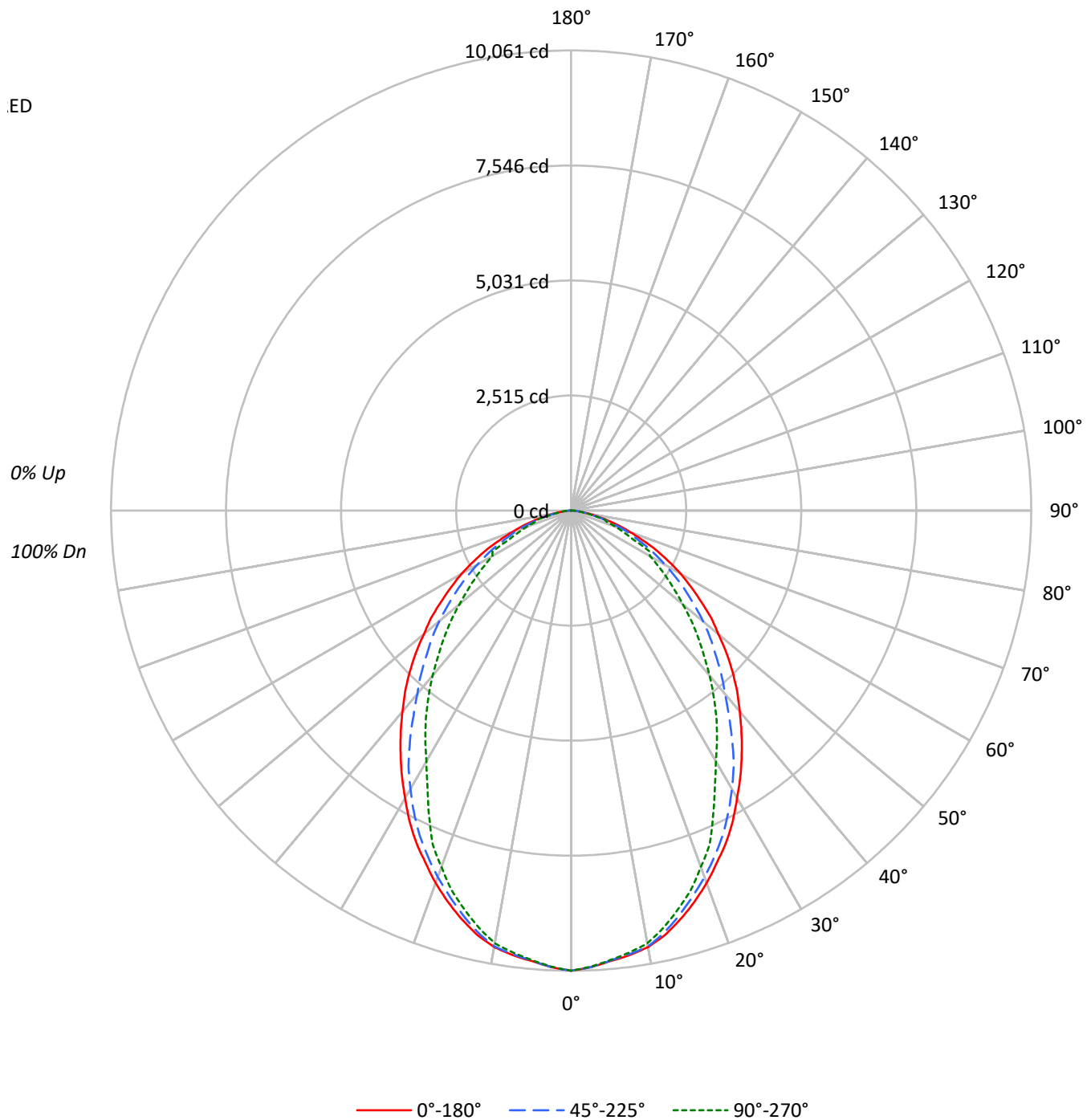
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	13537	13537	13537
5°	13353	13337	13322
10°	13237	13221	13126
15°	12880	12751	12572
20°	12407	12207	11874
25°	11897	11638	10913
30°	11276	10915	9830
35°	10679	10087	9094
40°	10071	9193	8274
45°	9494	8499	7481
50°	8789	7888	6671
55°	8131	7148	5975
60°	7449	6385	5352
65°	6554	5592	4740
70°	5399	4896	4026
75°	4293	3749	3930
80°	2884	2703	2524
85°	1795	2155	2513

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9494 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	936.5	4.7
10°-20°	2570.2	13.0
20°-30°	3558.3	18.0
30°-40°	3794.2	19.2
40°-50°	3461.4	17.5
50°-60°	2711.7	13.7
60°-70°	1767.4	8.9
70°-80°	783.0	4.0
80°-90°	168.1	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°	7065.1	35.8
0°-40°	10859.3	55.0
0°-60°	17032.5	86.2
0°-90°	19751.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19751.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	10061	10061	10061	10061	10061	
5°	9886	9875	9875	9863	9863	938
15°	9247	9247	9154	9061	9026	2600
25°	8014	7967	7839	7560	7351	3679
35°	6502	6455	6141	5676	5536	4065
45°	4990	4885	4466	4094	3931	3844
55°	3466	3361	3047	2687	2547	3109
65°	2059	1942	1756	1791	1489	2029
75°	826	768	721	686	756	885
85°	116	128	140	151	163	161
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	10060.9	10060.9	10060.9	10060.9	10060.9
2.5°	9991.1	9991.1	9991.1	9979.5	9979.5
5°	9886.4	9874.8	9874.8	9863.2	9863.2
7.5°	9805.0	9793.4	9781.7	9770.1	9746.9
10°	9688.7	9688.7	9677.1	9618.9	9607.3
12.5°	9502.6	9491.0	9444.4	9363.0	9339.8
15°	9246.7	9246.7	9153.7	9060.6	9025.7
17.5°	8967.6	8955.9	8839.6	8746.6	8700.1
20°	8665.2	8641.9	8525.6	8374.4	8293.0
22.5°	8327.9	8327.9	8188.3	7990.6	7909.1
25°	8013.8	7967.3	7839.4	7560.2	7350.9
27.5°	7653.3	7583.5	7443.9	7048.4	6804.2
30°	7257.8	7222.9	7025.2	6513.4	6327.3
32.5°	6885.6	6827.5	6618.1	6083.1	5931.9
35°	6501.8	6455.3	6141.2	5676.0	5536.4
37.5°	6118.0	6059.8	5664.3	5292.1	5117.7
40°	5734.1	5664.3	5234.0	4896.7	4710.6
42.5°	5373.6	5280.5	4861.8	4501.2	4291.9
45°	4989.7	4885.1	4466.3	4094.1	3931.3
47.5°	4605.9	4512.9	4129.0	3745.2	3559.1
50°	4198.8	4117.4	3768.5	3384.6	3186.9
52.5°	3861.5	3733.6	3396.3	3012.5	2849.6
55°	3466.1	3361.4	3047.3	2686.8	2547.2
57.5°	3105.5	3000.8	2710.0	2372.7	2256.4
60°	2768.2	2617.0	2372.7	2082.0	1988.9
62.5°	2396.0	2279.7	2070.3	1826.1	1942.4
65°	2058.7	1942.4	1756.3	1791.2	1488.8
67.5°	1686.5	1628.4	1465.5	1302.7	1256.2
70°	1372.5	1302.7	1244.5	1070.1	1023.5
72.5°	1093.3	1023.5	942.1	849.1	814.2
75°	825.8	767.7	721.1	686.2	756.0
77.5°	569.9	546.7	511.8	476.9	465.2
80°	372.2	360.6	348.9	337.3	325.7
82.5°	221.0	221.0	221.0	221.0	221.0
85°	116.3	127.9	139.6	151.2	162.8
87.5°	69.8	69.8	81.4	93.0	104.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)