

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: P563690

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563690
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-35-UNV-93-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16090.0 lumens
Efficiency: N/A
Efficacy: 93.1 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

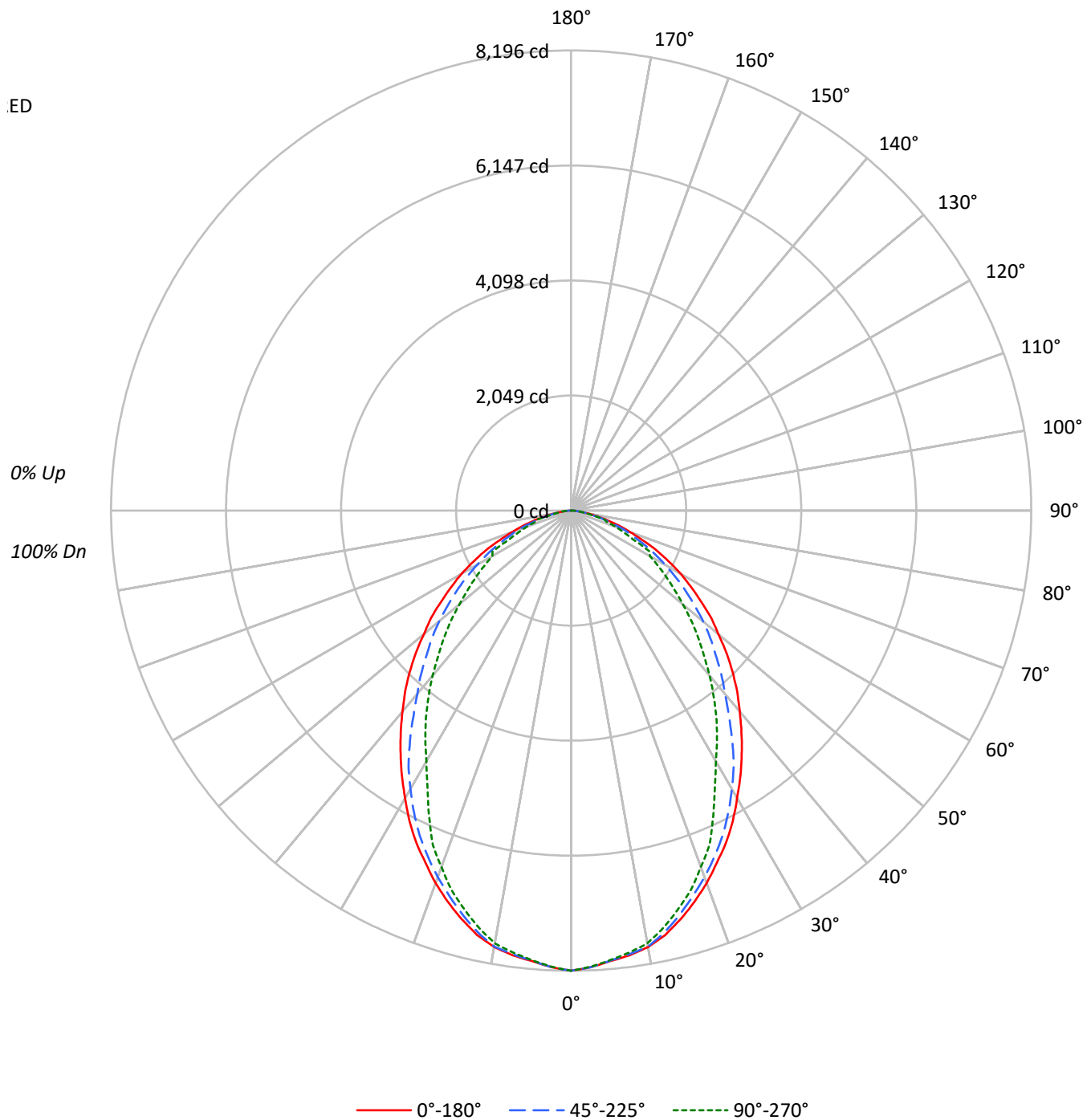
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	11028	11028	11028
5°	10878	10865	10852
10°	10784	10771	10693
15°	10493	10387	10242
20°	10107	9945	9673
25°	9692	9481	8890
30°	9186	8891	8008
35°	8700	8217	7408
40°	8205	7489	6740
45°	7735	6923	6094
50°	7160	6426	5434
55°	6624	5823	4868
60°	6068	5201	4360
65°	5339	4555	3861
70°	4399	3988	3280
75°	3497	3054	3202
80°	2349	2203	2056
85°	1463	1755	2049

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7735 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	762.9	4.7
10°-20°	2093.8	13.0
20°-30°	2898.8	18.0
30°-40°	3090.9	19.2
40°-50°	2819.8	17.5
50°-60°	2209.1	13.7
60°-70°	1439.8	8.9
70°-80°	637.9	4.0
80°-90°	137.0	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°	5755.5	35.8
0°-40°	8846.4	55.0
0°-60°	13875.4	86.2
0°-90°	16090.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16090.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8196	8196	8196	8196	8196	
5°	8054	8044	8044	8035	8035	765
15°	7533	7533	7457	7381	7353	2118
25°	6528	6490	6386	6159	5988	2997
35°	5297	5259	5003	4624	4510	3311
45°	4065	3980	3638	3335	3203	3131
55°	2824	2738	2482	2189	2075	2533
65°	1677	1582	1431	1459	1213	1653
75°	673	625	588	559	616	721
85°	95	104	114	123	133	131
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8196.0	8196.0	8196.0	8196.0	8196.0
2.5°	8139.2	8139.2	8139.2	8129.7	8129.7
5°	8053.9	8044.4	8044.4	8035.0	8035.0
7.5°	7987.6	7978.1	7968.6	7959.2	7940.2
10°	7892.8	7892.8	7883.4	7836.0	7826.5
12.5°	7741.2	7731.7	7693.8	7627.5	7608.6
15°	7532.8	7532.8	7457.0	7381.2	7352.7
17.5°	7305.4	7295.9	7201.1	7125.3	7087.4
20°	7059.0	7040.1	6945.3	6822.1	6755.8
22.5°	6784.2	6784.2	6670.5	6509.4	6443.1
25°	6528.4	6490.5	6386.3	6158.9	5988.3
27.5°	6234.7	6177.8	6064.1	5742.0	5543.0
30°	5912.5	5884.1	5723.0	5306.1	5154.5
32.5°	5609.3	5561.9	5391.4	4955.5	4832.3
35°	5296.6	5258.7	5002.9	4623.9	4510.2
37.5°	4983.9	4936.6	4614.4	4311.2	4169.1
40°	4671.3	4614.4	4263.8	3989.1	3837.4
42.5°	4377.5	4301.7	3960.6	3666.9	3496.3
45°	4064.9	3979.6	3638.5	3335.3	3202.6
47.5°	3752.2	3676.4	3363.7	3051.0	2899.4
50°	3420.5	3354.2	3070.0	2757.3	2596.2
52.5°	3145.8	3041.5	2766.8	2454.1	2321.4
55°	2823.6	2738.3	2482.5	2188.8	2075.1
57.5°	2529.9	2444.6	2207.7	1932.9	1838.2
60°	2255.1	2131.9	1932.9	1696.1	1620.3
62.5°	1951.9	1857.1	1686.6	1487.6	1582.4
65°	1677.1	1582.4	1430.8	1459.2	1212.8
67.5°	1373.9	1326.5	1193.9	1061.2	1023.3
70°	1118.1	1061.2	1013.8	871.7	833.8
72.5°	890.7	833.8	767.5	691.7	663.3
75°	672.7	625.4	587.5	559.0	615.9
77.5°	464.3	445.3	416.9	388.5	379.0
80°	303.2	293.7	284.3	274.8	265.3
82.5°	180.0	180.0	180.0	180.0	180.0
85°	94.8	104.2	113.7	123.2	132.7
87.5°	56.9	56.9	66.3	75.8	85.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)