

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: P590167

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-80-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590167
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2HI-40-UNV-80-86-EDD
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4685.0 lumens
Efficiency: N/A
Efficacy: 108.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

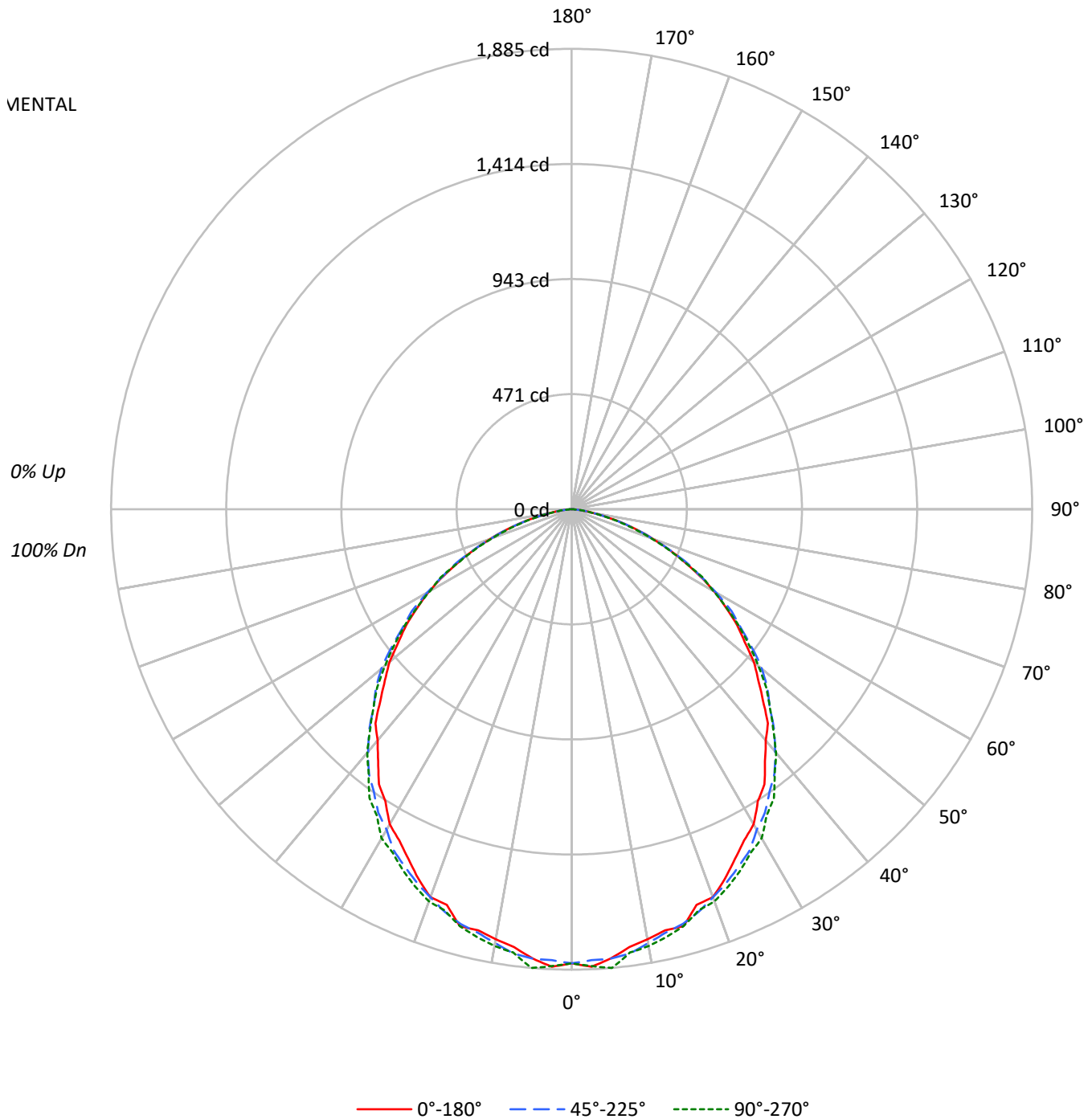
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88					86				
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75					73				
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64					62				
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55					53				
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48					46				
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43					41				
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38					36				
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34					32				
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31					29				
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28					26				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5002	5002	5002
5°	4986	4988	5093
10°	4885	4927	4962
15°	4923	4897	4924
20°	4840	4840	4892
25°	4691	4794	4847
30°	4627	4708	4833
35°	4518	4636	4740
40°	4342	4551	4571
45°	4211	4360	4367
50°	4073	4256	4175
55°	3880	3956	3928
60°	3629	3665	3599
65°	3235	3318	3212
70°	2776	2785	2708
75°	2199	2194	2109
80°	1472	1432	1376
85°	800	794	741

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4473 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.9	3.7
10°-20°	495.6	10.6
20°-30°	742.5	15.8
30°-40°	880.0	18.8
40°-50°	881.6	18.8
50°-60°	748.3	16.0
60°-70°	504.5	10.8
70°-80°	221.7	4.7
80°-90°	36.0	0.8
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°	1412.9	30.2
0°-40°	2292.8	48.9
0°-60°	3922.8	83.7
0°-90°	4685.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4685.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1859	1859	1859	1859	1859	
5°	1846	1841	1846	1841	1885	174
15°	1767	1747	1758	1767	1767	492
25°	1580	1589	1615	1636	1632	730
35°	1375	1379	1411	1444	1443	854
45°	1106	1127	1146	1175	1148	856
55°	827	822	843	837	837	736
65°	508	501	521	501	504	505
75°	212	207	211	196	203	227
85°	26	25	26	25	24	38
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1858.9	1858.9	1858.9	1858.9	1858.9
2.5°	1875.0	1860.8	1847.6	1863.0	1872.3
5°	1845.7	1841.4	1846.4	1840.9	1885.3
7.5°	1807.8	1824.3	1833.9	1827.9	1830.6
10°	1787.6	1781.8	1803.2	1818.1	1815.9
12.5°	1766.0	1774.6	1775.8	1791.9	1793.4
15°	1767.2	1746.8	1757.6	1766.7	1767.4
17.5°	1698.6	1720.6	1728.1	1749.0	1723.0
20°	1690.2	1674.1	1690.2	1711.5	1708.2
22.5°	1638.6	1620.6	1655.1	1674.1	1672.9
25°	1580.0	1588.6	1614.6	1635.7	1632.3
27.5°	1528.6	1538.7	1575.7	1604.7	1586.0
30°	1489.0	1484.0	1515.2	1541.1	1555.5
32.5°	1418.2	1436.5	1473.0	1498.6	1485.0
35°	1375.3	1379.3	1411.3	1443.9	1442.9
37.5°	1300.1	1319.1	1364.0	1373.1	1364.7
40°	1236.1	1255.0	1295.6	1305.4	1301.3
42.5°	1188.8	1192.1	1226.9	1238.2	1220.2
45°	1106.5	1127.1	1145.8	1175.3	1147.5
47.5°	1036.4	1046.0	1086.3	1094.2	1079.6
50°	972.8	976.1	1016.7	1006.8	997.2
52.5°	892.8	907.0	929.8	927.9	916.6
55°	827.1	821.6	843.2	837.4	837.2
57.5°	748.1	757.7	775.5	766.4	751.7
60°	674.2	674.4	680.9	670.6	668.7
62.5°	591.9	594.7	596.2	583.5	604.1
65°	508.1	501.4	521.1	501.1	504.5
67.5°	431.1	434.4	432.5	420.0	424.8
70°	352.8	357.1	354.0	339.9	344.2
72.5°	281.3	276.0	279.4	261.6	269.8
75°	211.5	207.1	211.0	196.1	202.8
77.5°	144.0	147.4	145.0	137.0	141.6
80°	95.0	92.4	92.4	87.8	88.8
82.5°	55.4	52.8	52.1	50.6	52.8
85°	25.9	25.2	25.7	25.0	24.0
87.5°	9.4	9.6	9.6	9.1	8.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)