

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P311026

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CP250-W2A-U-5000K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P311026
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-60HE-UNV-L82765-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5000K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5270.0 lumens
Efficiency: N/A
Efficacy: 108.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

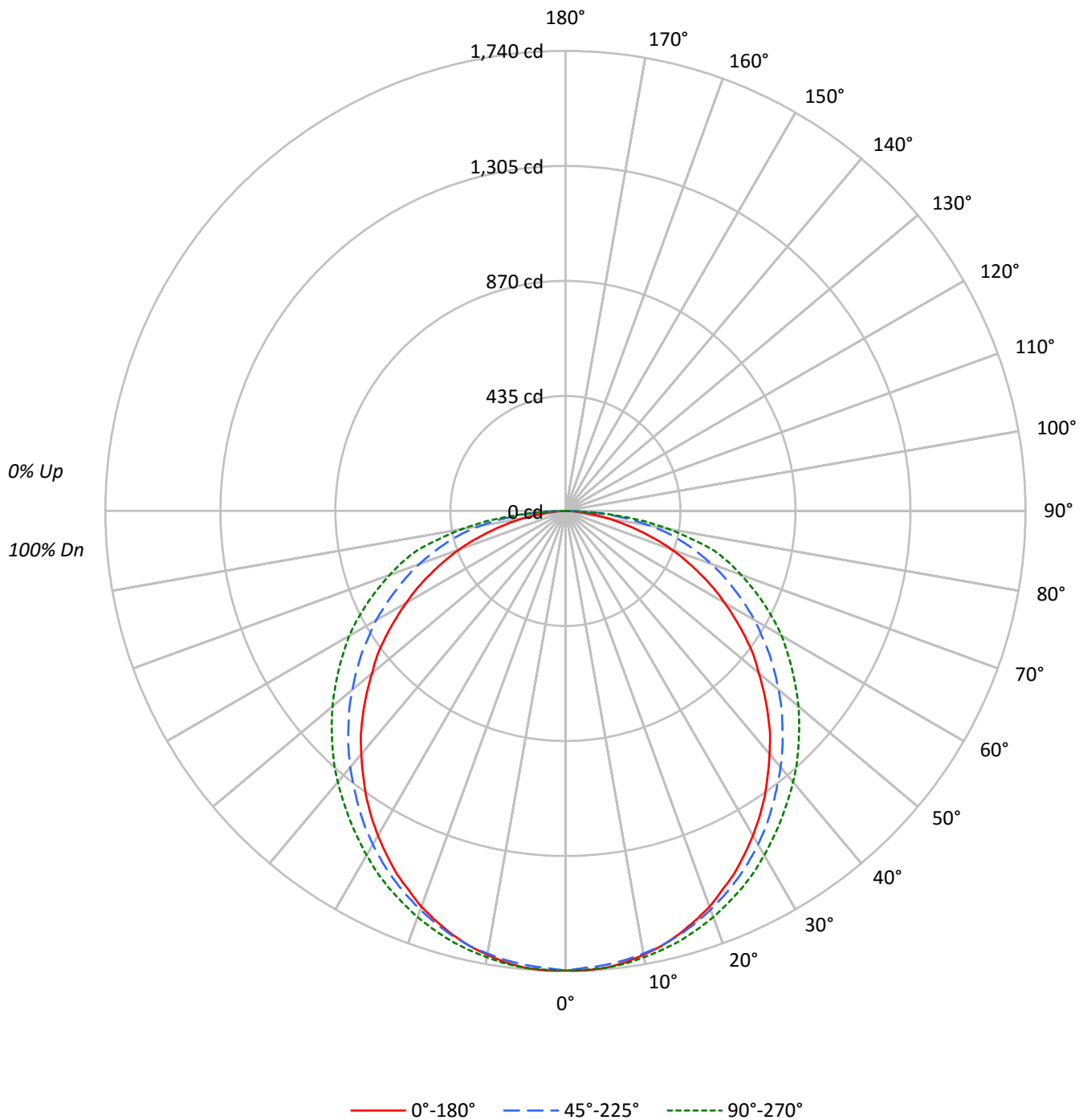
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82		
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67		
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56		
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47		
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41		
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36		
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31		
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28		
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25		
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2338	2338	2338
5°	2343	2328	2343
10°	2329	2322	2341
15°	2309	2314	2343
20°	2281	2298	2341
25°	2245	2282	2339
30°	2203	2263	2336
35°	2160	2240	2338
40°	2110	2223	2352
45°	2059	2209	2372
50°	1998	2203	2408
55°	1948	2207	2457
60°	1873	2225	2541
65°	1787	2249	2633
70°	1692	2318	2779
75°	1509	2418	3036
80°	1287	2561	3102
85°	917	2538	2969



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.5	3.1
10°-20°	470.3	8.9
20°-30°	710.4	13.5
30°-40°	856.2	16.2
40°-50°	898.8	17.1
50°-60°	840.9	16.0
60°-70°	694.4	13.2
70°-80°	473.2	9.0
80°-90°	161.4	3.1
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°	1345.2	25.5
0°-40°	2201.3	41.8
0°-60°	3941.0	74.8
0°-90°	5270.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5270.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1738	1738	1738	1738	1738	
5°	1734	1733	1724	1734	1734	165
15°	1658	1659	1661	1679	1682	467
25°	1512	1519	1537	1567	1575	696
35°	1315	1329	1364	1409	1423	822
45°	1082	1105	1161	1224	1247	835
55°	830	864	941	1018	1047	741
65°	561	608	706	796	827	557
75°	290	357	465	552	584	309
85°	59	117	164	185	192	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1738.0	1738.0	1738.0	1738.0	1738.0
2.5°	1739.7	1738.0	1729.3	1738.0	1736.3
5°	1734.5	1732.8	1724.0	1734.5	1734.5
7.5°	1722.3	1722.3	1713.5	1725.8	1727.5
10°	1704.8	1704.8	1699.5	1713.5	1713.5
12.5°	1683.8	1683.8	1683.8	1697.8	1699.5
15°	1657.6	1659.3	1661.1	1678.6	1682.0
17.5°	1626.1	1629.6	1634.8	1655.8	1659.3
20°	1592.9	1596.4	1605.1	1629.6	1634.8
22.5°	1550.9	1559.7	1571.9	1599.9	1605.1
25°	1512.4	1519.4	1536.9	1566.6	1575.4
27.5°	1465.2	1475.7	1498.5	1529.9	1542.2
30°	1418.0	1428.5	1456.5	1493.2	1503.7
32.5°	1367.3	1383.1	1412.8	1451.2	1463.5
35°	1314.9	1328.9	1363.8	1409.3	1423.3
37.5°	1257.2	1276.4	1314.9	1363.8	1381.3
40°	1201.2	1222.2	1265.9	1318.4	1339.3
42.5°	1145.3	1166.2	1215.2	1274.7	1295.6
45°	1082.3	1105.0	1161.0	1223.9	1246.7
47.5°	1019.4	1047.3	1108.5	1175.0	1199.5
50°	954.7	986.1	1052.6	1122.5	1150.5
52.5°	897.0	926.7	996.6	1071.8	1098.1
55°	830.5	863.8	940.7	1017.6	1047.3
57.5°	762.3	799.1	881.2	965.2	994.9
60°	695.9	736.1	827.0	911.0	944.2
62.5°	631.2	671.4	765.8	853.3	886.5
65°	561.3	608.5	706.4	795.6	827.0
67.5°	494.8	545.5	648.7	736.1	767.6
70°	430.1	479.1	589.2	674.9	706.4
72.5°	360.2	416.1	526.3	615.5	648.7
75°	290.2	356.7	465.1	552.5	584.0
77.5°	225.6	293.7	402.2	473.8	489.6
80°	166.1	236.0	330.5	381.2	400.4
82.5°	106.7	176.6	251.8	288.5	304.2
85°	59.4	117.1	164.4	185.3	192.3
87.5°	24.5	50.7	66.4	75.2	75.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)