

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: P310348

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CP250-W2A-U-3500K**

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: P310348
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
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-RDP-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 3500K 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: 3362.0 lumens
Efficiency: N/A
Efficacy: 70.3 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

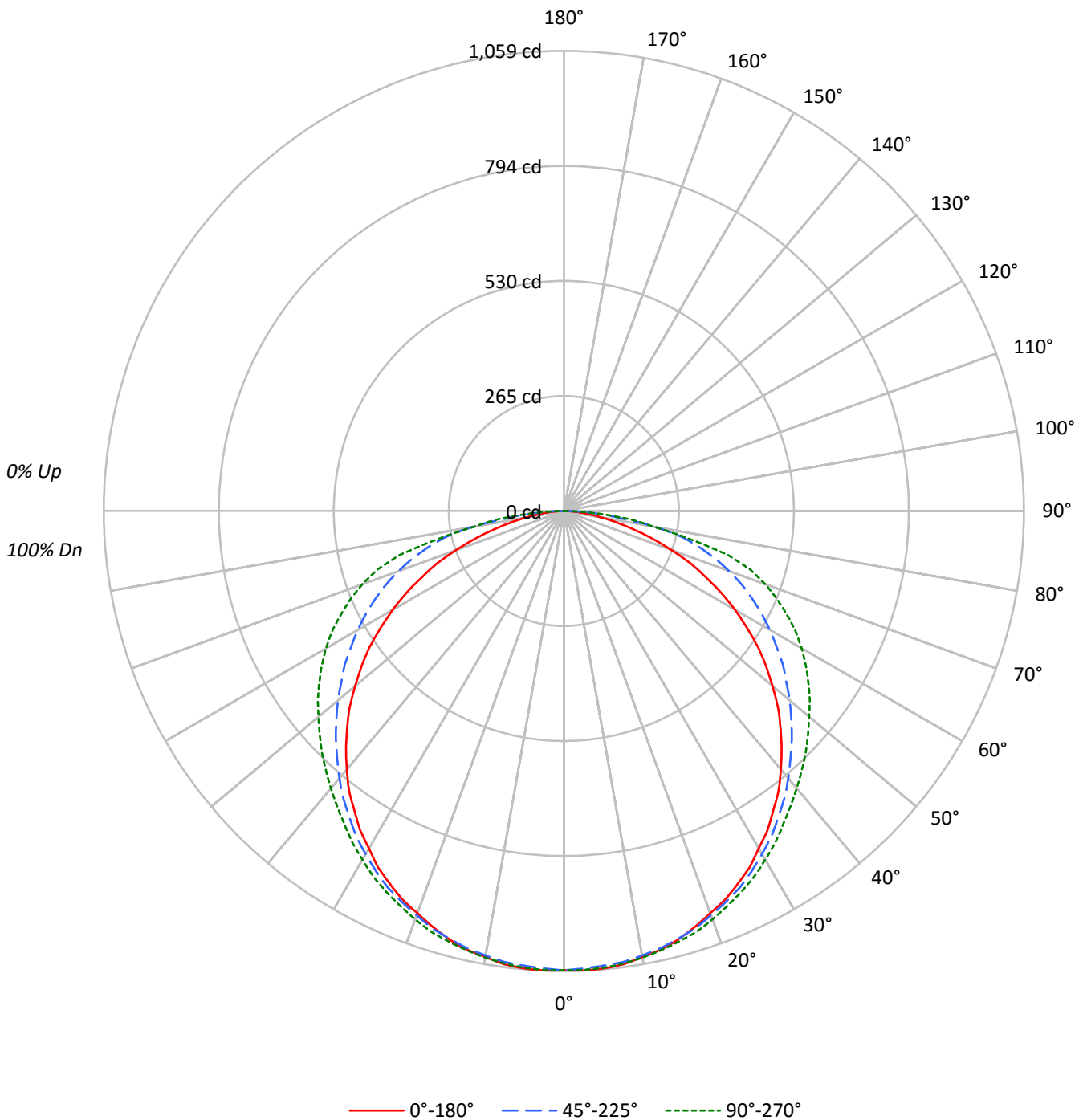
Input Watts (W): 47.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				10	0
RW	70	50	30	10	70	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
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1423	1423	1423
5°	1428	1419	1426
10°	1424	1419	1426
15°	1422	1419	1429
20°	1411	1418	1433
25°	1406	1421	1436
30°	1394	1417	1441
35°	1381	1413	1446
40°	1365	1412	1464
45°	1342	1412	1498
50°	1312	1421	1543
55°	1279	1443	1612
60°	1225	1472	1701
65°	1147	1524	1805
70°	1043	1594	1942
75°	884	1682	2028
80°	697	1693	1641
85°	516	1288	1442



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.3	3.0
10°-20°	288.6	8.6
20°-30°	441.4	13.1
30°-40°	539.6	16.0
40°-50°	575.1	17.1
50°-60°	549.9	16.4
60°-70°	465.8	13.9
70°-80°	313.1	9.3
80°-90°	88.3	2.6
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°	830.3	24.7
0°-40°	1369.9	40.7
0°-60°	2494.9	74.2
0°-90°	3362.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3362.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1057	1057	1057	1057	1057	
5°	1057	1056	1051	1056	1056	100
15°	1021	1021	1019	1027	1026	288
25°	947	950	957	966	967	437
35°	840	847	860	877	880	527
45°	705	717	742	774	787	544
55°	545	565	615	664	687	486
65°	360	397	479	542	567	358
75°	170	232	324	378	390	182
85°	33	68	83	90	93	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1057.3	1057.3	1057.3	1057.3	1057.3
2.5°	1058.9	1058.9	1053.9	1057.3	1057.3
5°	1057.3	1055.6	1050.6	1055.6	1055.6
7.5°	1052.3	1050.6	1047.2	1052.3	1050.6
10°	1042.2	1042.2	1038.9	1043.9	1043.9
12.5°	1033.9	1032.2	1030.6	1037.2	1035.6
15°	1020.6	1020.6	1018.9	1027.2	1025.6
17.5°	1003.9	1005.6	1007.2	1013.9	1015.6
20°	985.5	988.9	990.5	1000.6	1000.6
22.5°	968.9	970.5	973.9	983.9	983.9
25°	947.2	950.5	957.2	965.5	967.2
27.5°	925.5	927.2	935.5	947.2	948.9
30°	897.2	902.2	912.2	925.5	927.2
32.5°	872.2	877.2	888.8	902.2	905.5
35°	840.5	847.1	860.5	877.2	880.5
37.5°	812.1	817.1	833.8	852.1	857.1
40°	777.1	787.1	803.8	825.5	833.8
42.5°	742.1	752.1	772.1	800.4	810.4
45°	705.4	717.1	742.1	773.8	787.1
47.5°	668.7	682.0	710.4	747.1	762.1
50°	627.0	643.7	678.7	720.4	737.1
52.5°	587.0	607.0	645.4	692.1	713.7
55°	545.3	565.3	615.3	663.7	687.0
57.5°	498.6	525.3	580.3	635.4	660.4
60°	455.3	480.3	547.0	607.0	632.0
62.5°	408.6	441.9	513.6	577.0	602.0
65°	360.2	396.9	478.6	542.0	567.0
67.5°	316.8	356.9	443.6	506.9	532.0
70°	265.1	315.2	405.2	468.6	493.6
72.5°	216.8	271.8	365.2	426.9	450.2
75°	170.1	231.8	323.5	378.5	390.2
77.5°	126.7	191.8	280.2	303.5	295.2
80°	90.0	153.4	218.5	206.8	211.8
82.5°	58.4	116.7	135.1	153.4	158.4
85°	33.4	68.4	83.4	90.0	93.4
87.5°	15.0	25.0	33.4	33.4	31.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)