

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: P313238

Luminaire Tested: **24FCZ2-45-UNV-L83050-HRP-CP250-W2A-U-4500K**

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: P313238
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45-UNV-L83050-HRP-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (168) 4500K 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: 3166.0 lumens
Efficiency: N/A
Efficacy: 80.4 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

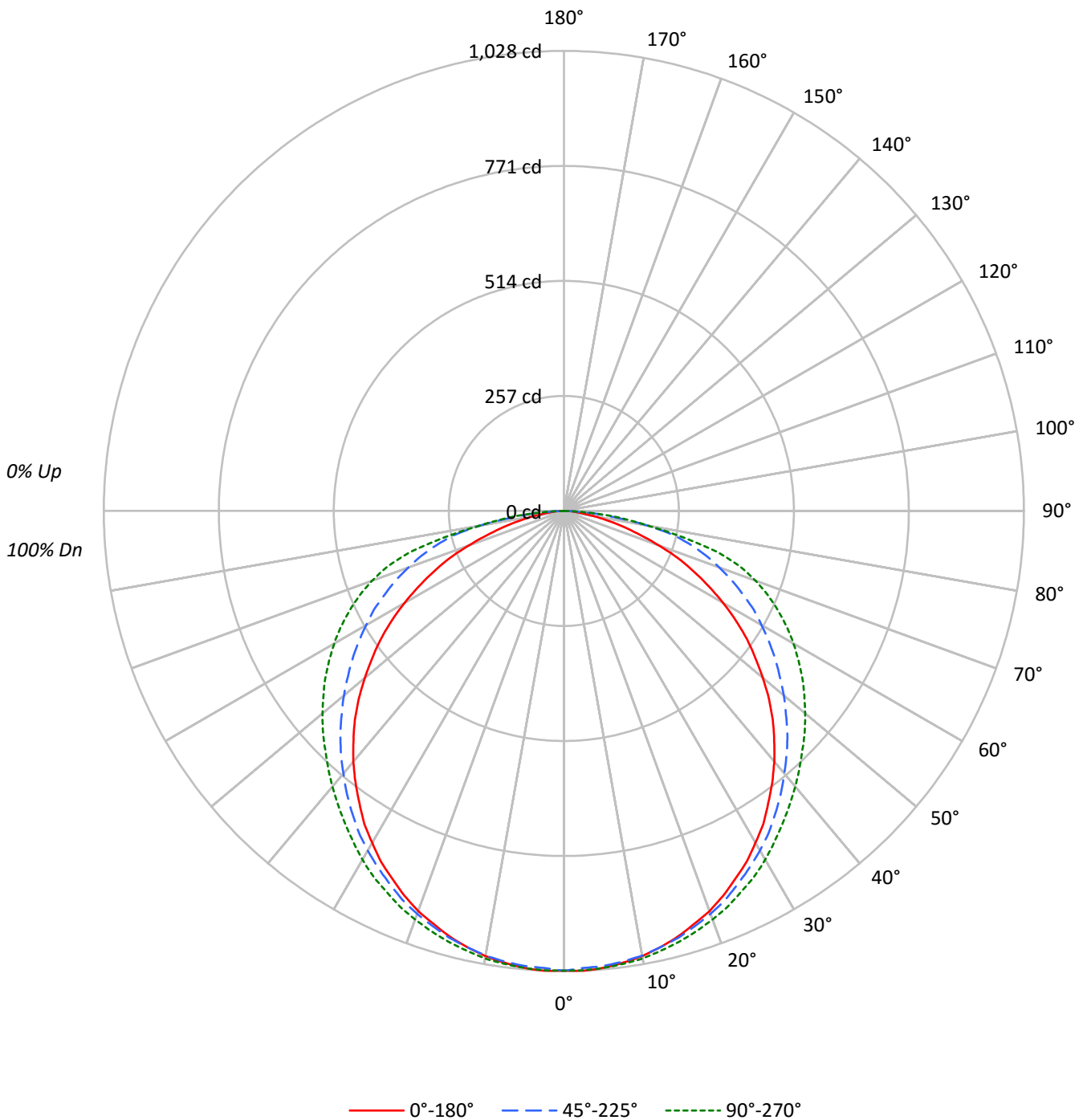
Input Watts (W): 39.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1382	1382	1382
5°	1384	1378	1384
10°	1380	1378	1387
15°	1372	1375	1388
20°	1363	1372	1391
25°	1346	1366	1393
30°	1330	1361	1398
35°	1308	1354	1400
40°	1285	1346	1413
45°	1256	1344	1435
50°	1215	1343	1473
55°	1172	1353	1527
60°	1106	1373	1594
65°	1021	1405	1684
70°	891	1455	1793
75°	724	1529	1853
80°	534	1499	1499
85°	409	1105	1249



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.3	3.1
10°-20°	279.4	8.8
20°-30°	425.4	13.4
30°-40°	516.5	16.3
40°-50°	545.7	17.2
50°-60°	515.0	16.3
60°-70°	428.2	13.5
70°-80°	281.7	8.9
80°-90°	76.8	2.4
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°	802.2	25.3
0°-40°	1318.7	41.7
0°-60°	2379.4	75.2
0°-90°	3166.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3166.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1027	1027	1027	1027	1027	
5°	1025	1025	1021	1025	1025	97
15°	985	986	987	997	997	278
25°	907	912	920	936	938	418
35°	797	806	824	846	852	499
45°	660	673	706	741	754	508
55°	500	521	577	631	651	445
65°	321	358	441	506	529	317
75°	139	203	294	349	356	150
85°	26	58	72	80	81	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1027.2	1027.2	1027.2	1027.2	1027.2
2.5°	1028.5	1027.2	1021.9	1027.2	1027.2
5°	1024.6	1024.6	1020.6	1024.6	1024.6
7.5°	1017.9	1017.9	1015.3	1020.6	1020.6
10°	1010.0	1010.0	1008.7	1015.3	1015.3
12.5°	998.1	999.4	998.1	1006.0	1006.0
15°	984.8	986.1	987.4	996.7	996.7
17.5°	967.6	970.2	972.9	983.5	984.8
20°	951.7	953.0	958.3	970.2	971.5
22.5°	930.5	934.4	941.1	953.0	957.0
25°	906.6	911.9	919.9	935.8	938.4
27.5°	884.1	888.0	898.6	915.9	921.2
30°	856.2	862.9	876.1	893.3	900.0
32.5°	829.7	836.3	852.3	870.8	876.1
35°	796.6	805.9	824.4	845.6	852.3
37.5°	764.8	774.1	796.6	820.4	828.4
40°	731.6	742.2	766.1	793.9	804.5
42.5°	695.9	710.4	736.9	767.4	779.4
45°	660.1	673.3	706.5	740.9	754.2
47.5°	621.6	637.5	673.3	714.4	730.3
50°	580.5	600.4	641.5	686.6	703.8
52.5°	539.5	562.0	608.4	658.7	677.3
55°	499.7	520.9	576.6	630.9	650.8
57.5°	455.9	482.5	543.4	601.7	621.6
60°	410.9	440.0	510.3	571.3	592.5
62.5°	365.8	399.0	478.5	539.5	562.0
65°	320.8	357.9	441.4	506.3	528.8
67.5°	277.0	318.1	406.9	471.9	494.4
70°	226.6	278.3	369.8	433.4	455.9
72.5°	180.3	239.9	334.0	393.7	413.5
75°	139.2	202.8	294.2	348.6	356.5
77.5°	102.1	165.7	253.2	271.7	273.0
80°	68.9	132.5	193.5	190.9	193.5
82.5°	45.1	99.4	121.9	136.5	137.8
85°	26.5	58.3	71.6	79.5	80.9
87.5°	13.3	19.9	25.2	26.5	29.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)