

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: P310350

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-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: P310350
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 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: 3497.0 lumens
Efficiency: N/A
Efficacy: 72.1 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

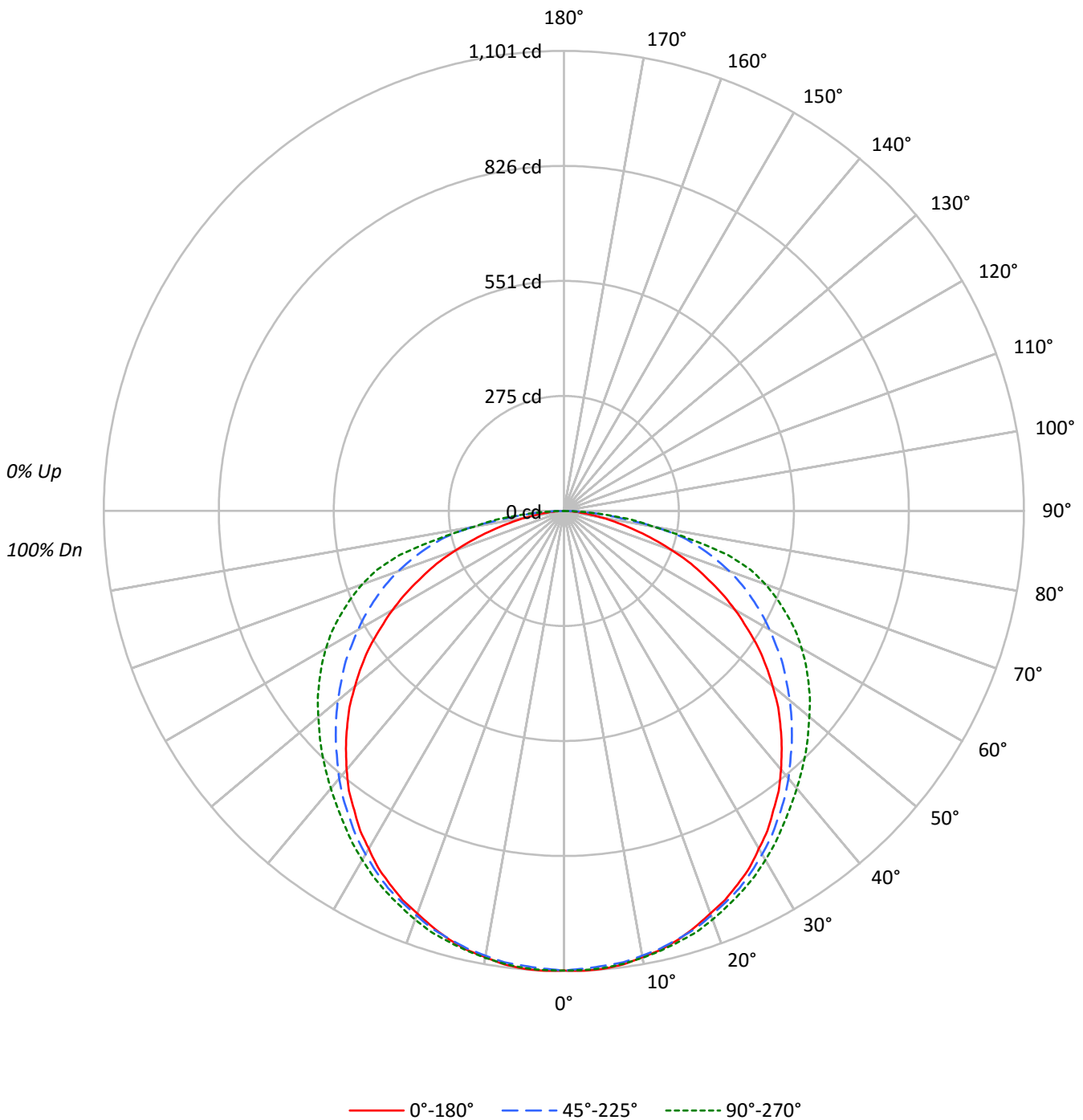
Input Watts (W): 48.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1480	1480	1480
5°	1485	1476	1483
10°	1481	1476	1483
15°	1479	1476	1486
20°	1468	1475	1490
25°	1463	1478	1493
30°	1450	1474	1498
35°	1436	1470	1504
40°	1420	1469	1523
45°	1396	1469	1558
50°	1365	1478	1605
55°	1331	1502	1676
60°	1274	1531	1769
65°	1193	1585	1877
70°	1085	1658	2020
75°	920	1749	2110
80°	726	1760	1707
85°	536	1338	1499



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.3	3.0
10°-20°	300.2	8.6
20°-30°	459.1	13.1
30°-40°	561.3	16.0
40°-50°	598.2	17.1
50°-60°	571.9	16.4
60°-70°	484.5	13.9
70°-80°	325.6	9.3
80°-90°	91.9	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°	863.6	24.7
0°-40°	1424.9	40.7
0°-60°	2595.0	74.2
0°-90°	3497.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3497.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1100	1100	1100	1100	1100	
5°	1100	1098	1093	1098	1098	104
15°	1062	1062	1060	1068	1067	299
25°	985	989	996	1004	1006	454
35°	874	881	895	912	916	548
45°	734	746	772	805	819	566
55°	567	588	640	690	715	505
65°	375	413	498	564	590	372
75°	177	241	336	394	406	189
85°	35	71	87	94	97	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1099.7	1099.7	1099.7	1099.7	1099.7
2.5°	1101.4	1101.4	1096.2	1099.7	1099.7
5°	1099.7	1098.0	1092.8	1098.0	1098.0
7.5°	1094.5	1092.8	1089.3	1094.5	1092.8
10°	1084.1	1084.1	1080.6	1085.8	1085.8
12.5°	1075.4	1073.7	1072.0	1078.9	1077.2
15°	1061.5	1061.5	1059.8	1068.5	1066.8
17.5°	1044.2	1045.9	1047.7	1054.6	1056.3
20°	1025.1	1028.6	1030.3	1040.7	1040.7
22.5°	1007.8	1009.5	1013.0	1023.4	1023.4
25°	985.2	988.7	995.6	1004.3	1006.0
27.5°	962.7	964.4	973.1	985.2	987.0
30°	933.2	938.4	948.8	962.7	964.4
32.5°	907.2	912.4	924.5	938.4	941.9
35°	874.2	881.2	895.0	912.4	915.8
37.5°	844.7	849.9	867.3	886.4	891.6
40°	808.3	818.7	836.1	858.6	867.3
42.5°	771.9	782.3	803.1	832.6	843.0
45°	733.7	745.9	771.9	804.8	818.7
47.5°	695.6	709.4	738.9	777.1	792.7
50°	652.2	669.5	706.0	749.3	766.7
52.5°	610.6	631.4	671.3	719.8	742.4
55°	567.2	588.0	640.1	690.4	714.6
57.5°	518.6	546.4	603.6	660.9	686.9
60°	473.5	499.6	568.9	631.4	657.4
62.5°	425.0	459.7	534.2	600.2	626.2
65°	374.7	412.8	497.8	563.7	589.7
67.5°	329.6	371.2	461.4	527.3	553.3
70°	275.8	327.8	421.5	487.4	513.4
72.5°	225.5	282.7	379.9	444.0	468.3
75°	176.9	241.1	336.5	393.7	405.9
77.5°	131.8	199.5	291.4	315.7	307.0
80°	93.7	159.6	227.2	215.1	220.3
82.5°	60.7	121.4	140.5	159.6	164.8
85°	34.7	71.1	86.7	93.7	97.1
87.5°	15.6	26.0	34.7	34.7	33.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)