

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: P310349

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CP250-W2A-U-4000K**

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: P310349
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 4000K 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: 3436.0 lumens
Efficiency: N/A
Efficacy: 71.3 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

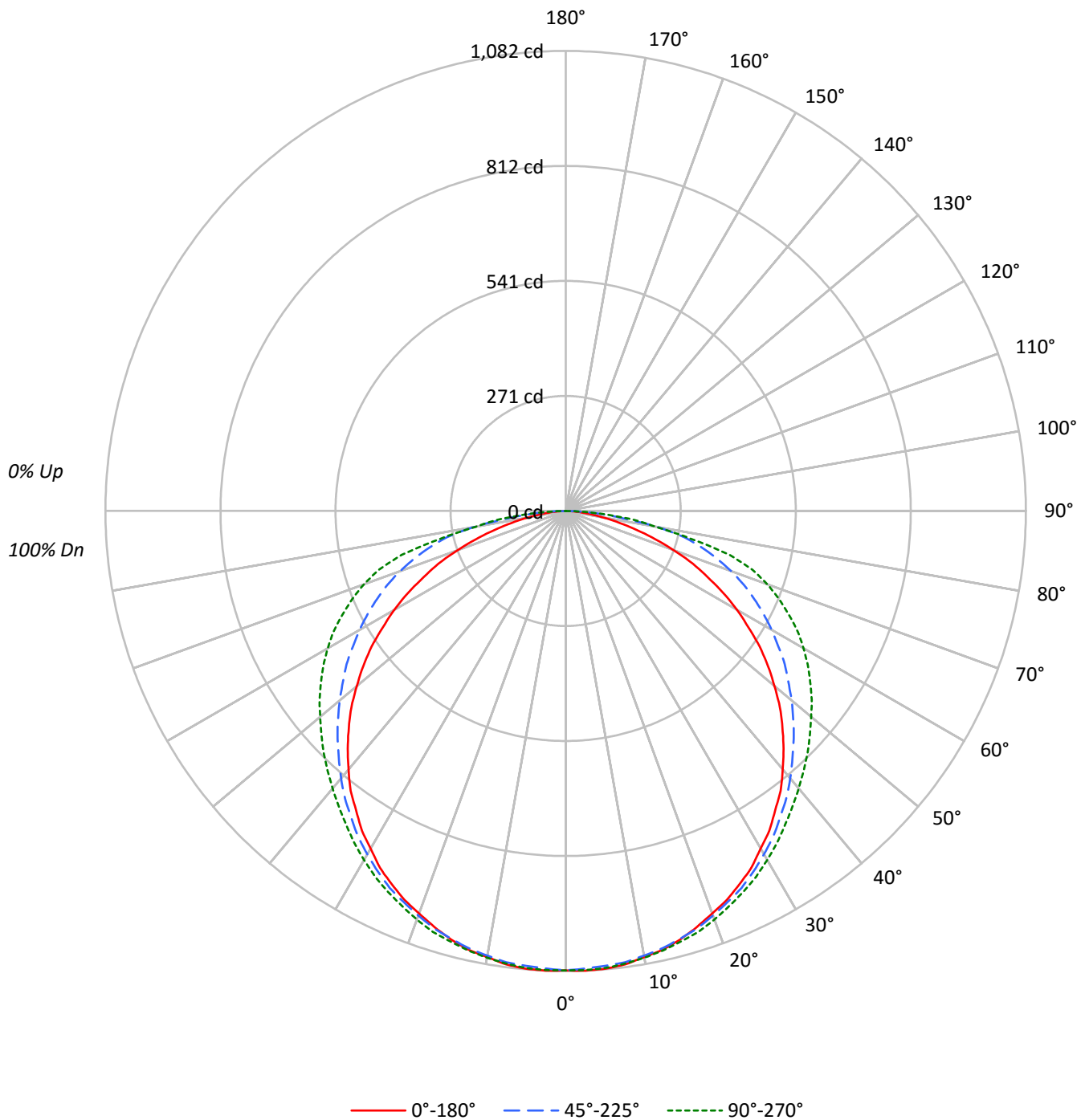
Input Watts (W): 48.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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		0
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		100
1	108	103	98	94	105	100	96	92	96	93	89		92	89	87		82
2	97	89	81	75	95	87	80	74	83	77	72		80	75	71		67
3	88	77	68	62	86	76	67	61	72	66	60		70	64	59		56
4	81	68	59	52	78	67	58	51	64	57	51		62	55	50		47
5	74	60	51	44	72	59	51	44	57	49	43		55	48	43		40
6	68	54	45	38	66	53	45	38	51	44	38		50	43	37		35
7	63	49	40	34	61	48	40	34	47	39	33		45	38	33		31
8	59	45	36	30	57	44	36	30	43	35	30		41	34	29		27
9	55	41	33	27	53	40	32	27	39	32	27		38	31	26		24
10	51	38	30	24	50	37	29	24	36	29	24		35	29	24		22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1454	1454	1454
5°	1459	1450	1457
10°	1455	1451	1458
15°	1453	1450	1460
20°	1442	1450	1464
25°	1437	1452	1468
30°	1425	1448	1472
35°	1411	1444	1478
40°	1395	1443	1497
45°	1372	1443	1531
50°	1341	1452	1577
55°	1307	1475	1647
60°	1252	1504	1738
65°	1172	1557	1845
70°	1066	1629	1985
75°	904	1719	2073
80°	713	1730	1677
85°	526	1315	1473



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.5	3.0
10°-20°	295.0	8.6
20°-30°	451.1	13.1
30°-40°	551.5	16.0
40°-50°	587.7	17.1
50°-60°	562.0	16.4
60°-70°	476.0	13.9
70°-80°	319.9	9.3
80°-90°	90.2	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°	848.6	24.7
0°-40°	1400.0	40.7
0°-60°	2549.8	74.2
0°-90°	3436.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3436.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1080	1080	1080	1080	1080	
5°	1080	1079	1074	1079	1079	103
15°	1043	1043	1041	1050	1048	294
25°	968	971	978	987	988	446
35°	859	866	879	896	900	538
45°	721	733	758	791	804	556
55°	557	578	629	678	702	496
65°	368	406	489	554	580	365
75°	174	237	331	387	399	186
85°	34	70	85	92	95	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1080.5	1080.5	1080.5	1080.5	1080.5
2.5°	1082.2	1082.2	1077.1	1080.5	1080.5
5°	1080.5	1078.8	1073.7	1078.8	1078.8
7.5°	1075.4	1073.7	1070.3	1075.4	1073.7
10°	1065.2	1065.2	1061.8	1066.9	1066.9
12.5°	1056.7	1055.0	1053.3	1060.1	1058.4
15°	1043.0	1043.0	1041.3	1049.8	1048.1
17.5°	1026.0	1027.7	1029.4	1036.2	1037.9
20°	1007.2	1010.6	1012.4	1022.6	1022.6
22.5°	990.2	991.9	995.3	1005.5	1005.5
25°	968.0	971.4	978.3	986.8	988.5
27.5°	945.9	947.6	956.1	968.0	969.7
30°	916.9	922.0	932.3	945.9	947.6
32.5°	891.3	896.5	908.4	922.0	925.4
35°	859.0	865.8	879.4	896.5	899.9
37.5°	830.0	835.1	852.1	870.9	876.0
40°	794.2	804.4	821.5	843.6	852.1
42.5°	758.4	768.6	789.1	818.1	828.3
45°	720.9	732.8	758.4	790.8	804.4
47.5°	683.4	697.1	726.0	763.5	778.9
50°	640.8	657.9	693.6	736.3	753.3
52.5°	599.9	620.4	659.6	707.3	729.4
55°	557.3	577.8	628.9	678.3	702.2
57.5°	509.6	536.9	593.1	649.3	674.9
60°	465.3	490.8	559.0	620.4	645.9
62.5°	417.6	451.6	524.9	589.7	615.3
65°	368.1	405.6	489.1	553.9	579.5
67.5°	323.8	364.7	453.3	518.1	543.7
70°	271.0	322.1	414.1	478.9	504.5
72.5°	221.6	277.8	373.2	436.3	460.2
75°	173.8	236.9	330.6	386.9	398.8
77.5°	129.5	196.0	286.3	310.2	301.7
80°	92.0	156.8	223.3	211.3	216.4
82.5°	59.7	119.3	138.0	156.8	161.9
85°	34.1	69.9	85.2	92.0	95.4
87.5°	15.3	25.6	34.1	34.1	32.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)