

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: P310697

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CP187-W2A-U-2700K**

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: P310697
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: 24FCZ2-40HE-UNV-L82765-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 2700K 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: 3197.0 lumens
Efficiency: N/A
Efficacy: 105.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

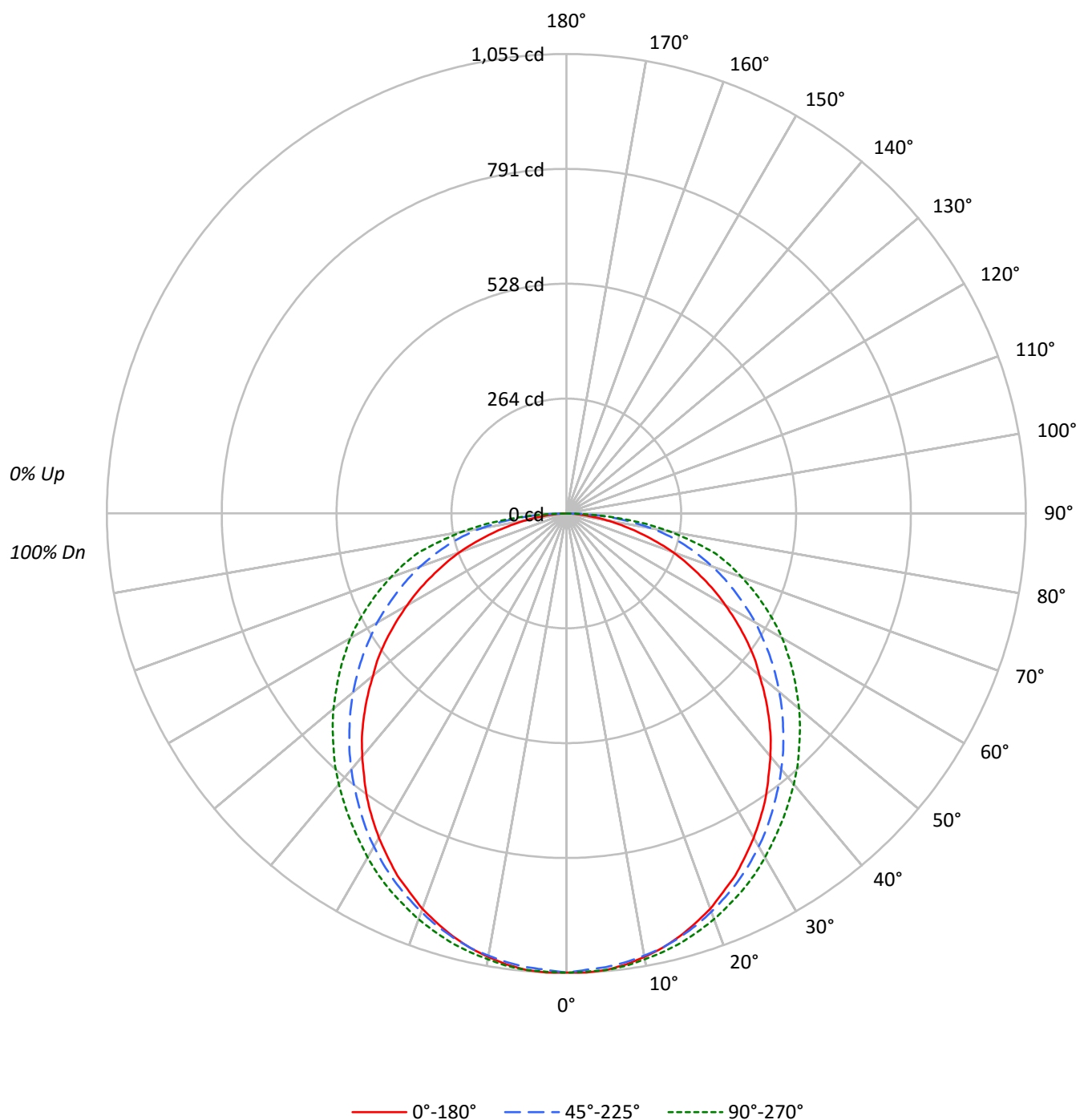
Input Watts (W): 30.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1419	1419	1419
5°	1421	1413	1421
10°	1413	1409	1420
15°	1401	1404	1421
20°	1384	1394	1420
25°	1362	1384	1419
30°	1336	1373	1417
35°	1310	1359	1418
40°	1280	1349	1427
45°	1249	1340	1439
50°	1212	1337	1461
55°	1182	1339	1491
60°	1136	1350	1541
65°	1084	1364	1597
70°	1026	1406	1686
75°	915	1467	1842
80°	781	1554	1882
85°	557	1539	1802



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.8	3.1
10°-20°	285.3	8.9
20°-30°	430.9	13.5
30°-40°	519.4	16.2
40°-50°	545.3	17.1
50°-60°	510.1	16.0
60°-70°	421.3	13.2
70°-80°	287.1	9.0
80°-90°	97.9	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°	816.0	25.5
0°-40°	1335.4	41.8
0°-60°	2390.8	74.8
0°-90°	3197.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3197.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1054	1054	1054	1054	1054	
5°	1052	1051	1046	1052	1052	100
15°	1006	1007	1008	1018	1020	283
25°	918	922	932	950	956	422
35°	798	806	827	855	863	498
45°	657	670	704	742	756	506
55°	504	524	571	617	635	450
65°	340	369	428	483	502	338
75°	176	216	282	335	354	188
85°	36	71	100	112	117	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1054.3	1054.3	1054.3	1054.3	1054.3
2.5°	1055.4	1054.3	1049.0	1054.3	1053.3
5°	1052.2	1051.2	1045.9	1052.2	1052.2
7.5°	1044.8	1044.8	1039.5	1046.9	1048.0
10°	1034.2	1034.2	1031.0	1039.5	1039.5
12.5°	1021.5	1021.5	1021.5	1029.9	1031.0
15°	1005.6	1006.6	1007.7	1018.3	1020.4
17.5°	986.5	988.6	991.8	1004.5	1006.6
20°	966.3	968.4	973.7	988.6	991.8
22.5°	940.8	946.2	953.6	970.5	973.7
25°	917.5	921.8	932.4	950.4	955.7
27.5°	888.9	895.2	909.0	928.1	935.5
30°	860.2	866.6	883.6	905.8	912.2
32.5°	829.5	839.0	857.1	880.4	887.8
35°	797.7	806.1	827.4	854.9	863.4
37.5°	762.6	774.3	797.7	827.4	838.0
40°	728.7	741.4	768.0	799.8	812.5
42.5°	694.8	707.5	737.2	773.3	786.0
45°	656.6	670.4	704.3	742.5	756.3
47.5°	618.4	635.4	672.5	712.8	727.6
50°	579.1	598.2	638.5	681.0	697.9
52.5°	544.1	562.2	604.6	650.2	666.1
55°	503.8	524.0	570.7	617.3	635.4
57.5°	462.5	484.7	534.6	585.5	603.5
60°	422.2	446.6	501.7	552.6	572.8
62.5°	382.9	407.3	464.6	517.6	537.8
65°	340.5	369.1	428.5	482.6	501.7
67.5°	300.2	330.9	393.5	446.6	465.7
70°	260.9	290.6	357.5	409.4	428.5
72.5°	218.5	252.4	319.3	373.4	393.5
75°	176.1	216.4	282.1	335.2	354.3
77.5°	136.8	178.2	244.0	287.5	297.0
80°	100.8	143.2	200.5	231.2	242.9
82.5°	64.7	107.1	152.7	175.0	184.6
85°	36.1	71.1	99.7	112.4	116.7
87.5°	14.8	30.8	40.3	45.6	45.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)