

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: P313255

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-HRP-CP187-W2A-U-3000K**

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: P313255
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: 24FCZ2-50HE-UNV-L83050-HRP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 3000K 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: 3156.0 lumens
Efficiency: N/A
Efficacy: 82.4 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

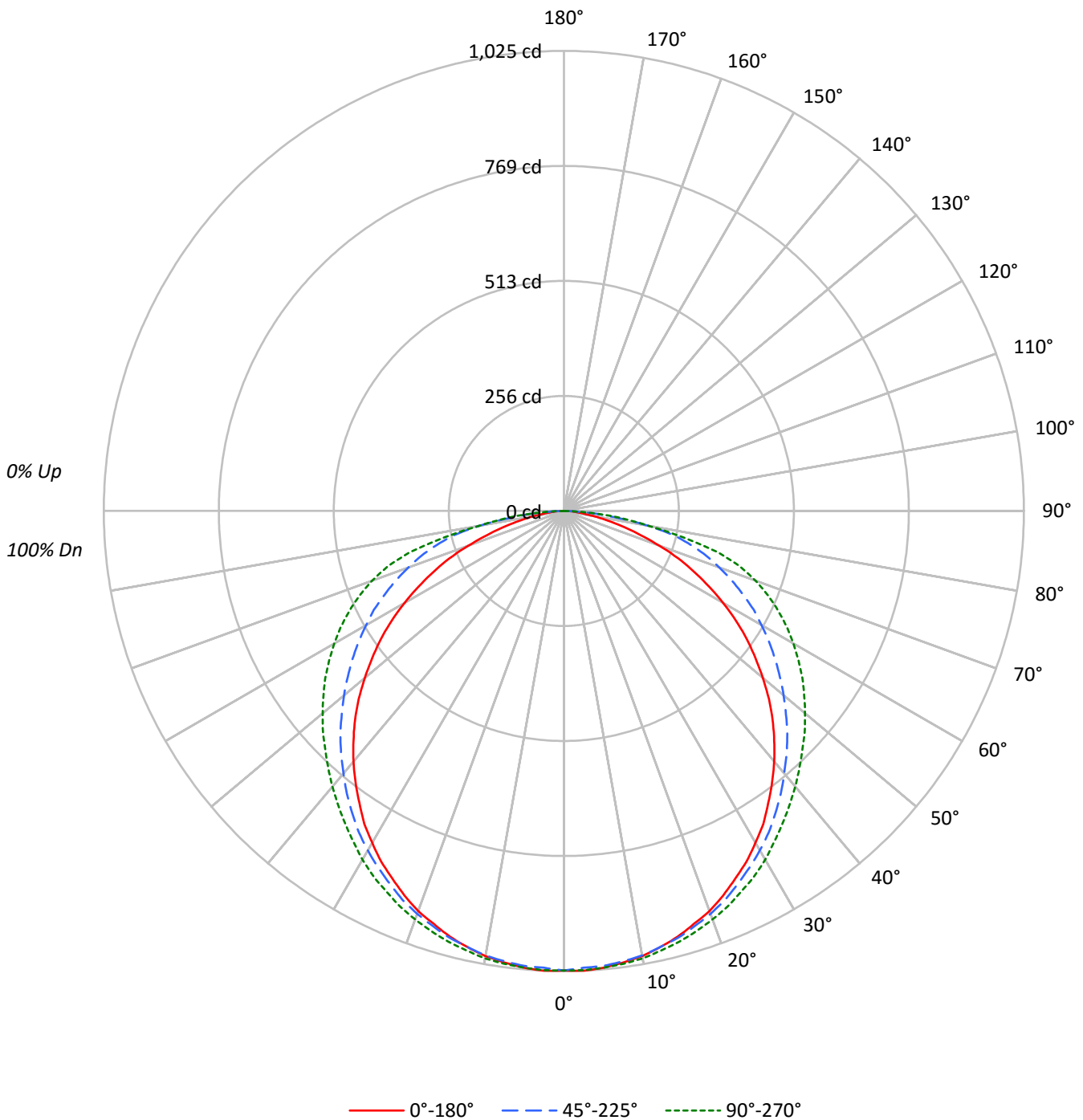
Input Watts (W): 38.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1378	1378	1378
5°	1379	1374	1379
10°	1376	1374	1383
15°	1367	1371	1384
20°	1358	1368	1387
25°	1342	1361	1389
30°	1326	1357	1394
35°	1304	1350	1396
40°	1281	1341	1409
45°	1252	1340	1431
50°	1211	1339	1469
55°	1168	1348	1522
60°	1102	1369	1589
65°	1018	1401	1678
70°	889	1450	1788
75°	721	1525	1848
80°	532	1495	1495
85°	408	1101	1244



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.0	3.1
10°-20°	278.6	8.8
20°-30°	424.1	13.4
30°-40°	514.9	16.3
40°-50°	544.0	17.2
50°-60°	513.3	16.3
60°-70°	426.8	13.5
70°-80°	280.8	8.9
80°-90°	76.5	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°	799.6	25.3
0°-40°	1314.5	41.7
0°-60°	2371.9	75.2
0°-90°	3156.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3156.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1024	1024	1024	1024	1024	
5°	1021	1021	1017	1021	1021	97
15°	982	983	984	994	994	277
25°	904	909	917	933	935	417
35°	794	803	822	843	850	497
45°	658	671	704	739	752	507
55°	498	519	575	629	649	444
65°	320	357	440	505	527	316
75°	139	202	293	348	355	149
85°	26	58	71	79	81	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1024.0	1024.0	1024.0	1024.0	1024.0
2.5°	1025.3	1024.0	1018.7	1024.0	1024.0
5°	1021.3	1021.3	1017.4	1021.3	1021.3
7.5°	1014.7	1014.7	1012.1	1017.4	1017.4
10°	1006.8	1006.8	1005.5	1012.1	1012.1
12.5°	994.9	996.2	994.9	1002.8	1002.8
15°	981.7	983.0	984.3	993.6	993.6
17.5°	964.5	967.2	969.8	980.4	981.7
20°	948.7	950.0	955.3	967.2	968.5
22.5°	927.5	931.5	938.1	950.0	953.9
25°	903.7	909.0	916.9	932.8	935.4
27.5°	881.3	885.2	895.8	913.0	918.3
30°	853.5	860.1	873.3	890.5	897.1
32.5°	827.1	833.7	849.6	868.1	873.3
35°	794.1	803.3	821.8	843.0	849.6
37.5°	762.4	771.6	794.1	817.9	825.8
40°	729.3	739.9	763.7	791.4	802.0
42.5°	693.7	708.2	734.6	765.0	776.9
45°	658.0	671.2	704.2	738.6	751.8
47.5°	619.7	635.5	671.2	712.2	728.0
50°	578.7	598.5	639.5	684.4	701.6
52.5°	537.7	560.2	606.5	656.7	675.2
55°	498.1	519.3	574.7	628.9	648.7
57.5°	454.5	480.9	541.7	599.8	619.7
60°	409.6	438.7	508.7	569.5	590.6
62.5°	364.7	397.7	477.0	537.7	560.2
65°	319.7	356.7	440.0	504.7	527.2
67.5°	276.1	317.1	405.6	470.4	492.8
70°	225.9	277.5	368.6	432.0	454.5
72.5°	179.7	239.1	333.0	392.4	412.2
75°	138.7	202.2	293.3	347.5	355.4
77.5°	101.7	165.2	252.4	270.9	272.2
80°	68.7	132.1	192.9	190.3	192.9
82.5°	44.9	99.1	121.6	136.1	137.4
85°	26.4	58.1	71.3	79.3	80.6
87.5°	13.2	19.8	25.1	26.4	29.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)