

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: P309528

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-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: P309528
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-L82765-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: 3079.0 lumens
Efficiency: N/A
Efficacy: 80.8 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

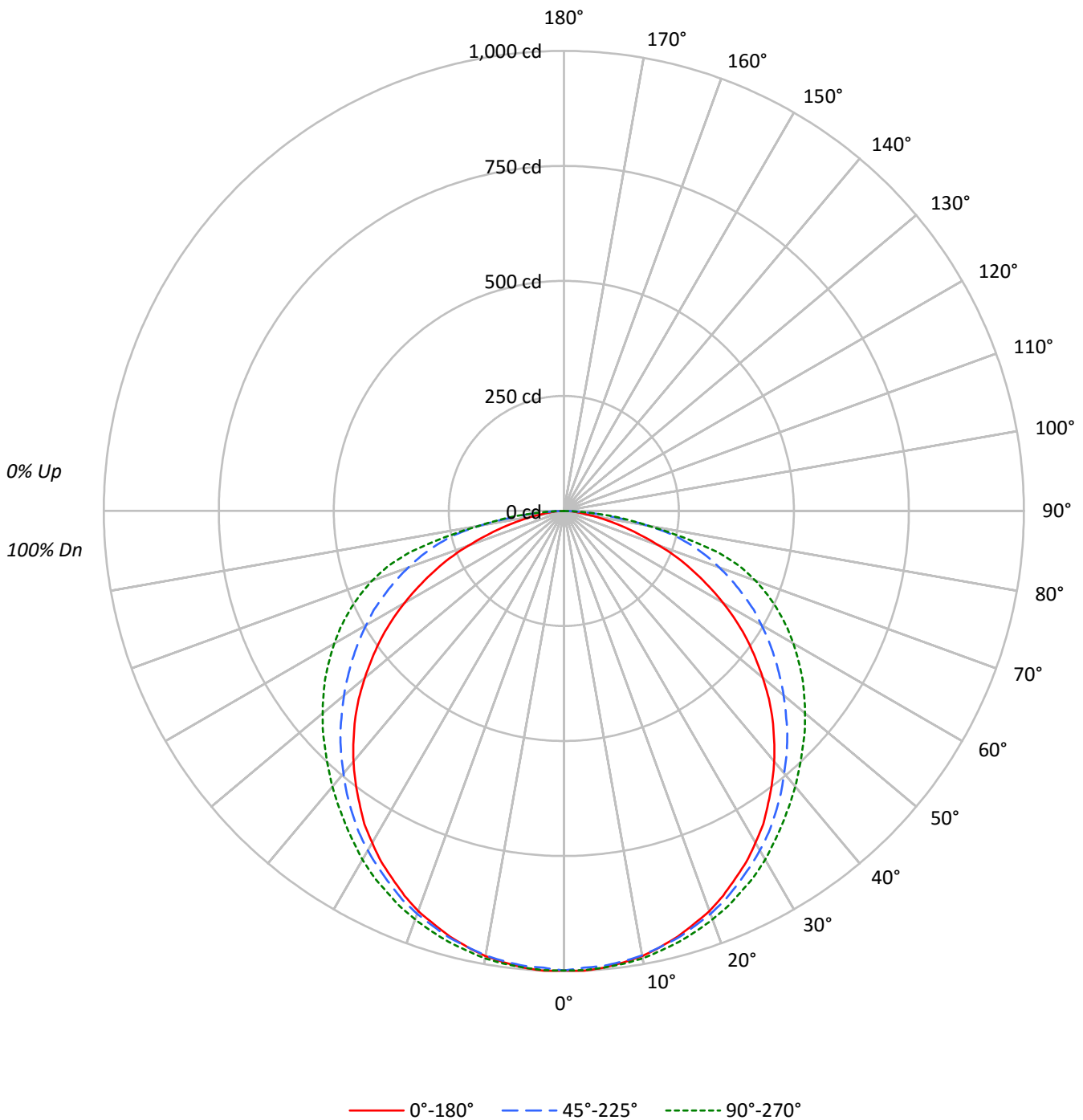
Input Watts (W): 38.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1344	1344	1344
5°	1346	1340	1346
10°	1342	1340	1349
15°	1334	1338	1350
20°	1325	1334	1353
25°	1309	1328	1355
30°	1294	1324	1360
35°	1272	1317	1361
40°	1250	1309	1374
45°	1221	1307	1396
50°	1182	1306	1433
55°	1140	1315	1485
60°	1075	1336	1551
65°	993	1366	1637
70°	867	1415	1744
75°	703	1488	1802
80°	519	1458	1458
85°	398	1074	1213



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	3.1
10°-20°	271.8	8.8
20°-30°	413.7	13.4
30°-40°	502.3	16.3
40°-50°	530.7	17.2
50°-60°	500.8	16.3
60°-70°	416.4	13.5
70°-80°	273.9	8.9
80°-90°	74.7	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°	780.1	25.3
0°-40°	1282.4	41.7
0°-60°	2314.0	75.2
0°-90°	3079.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3079.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	999	999	999	999	999	
5°	996	996	992	996	996	95
15°	958	959	960	969	969	270
25°	882	887	895	910	913	407
35°	775	784	802	822	829	485
45°	642	655	687	721	733	494
55°	486	507	561	614	633	433
65°	312	348	429	492	514	308
75°	135	197	286	339	347	146
85°	26	57	70	77	79	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	999.0	999.0	999.0	999.0	999.0
2.5°	1000.3	999.0	993.8	999.0	999.0
5°	996.4	996.4	992.5	996.4	996.4
7.5°	990.0	990.0	987.4	992.5	992.5
10°	982.2	982.2	980.9	987.4	987.4
12.5°	970.6	971.9	970.6	978.4	978.4
15°	957.7	959.0	960.3	969.3	969.3
17.5°	941.0	943.6	946.1	956.4	957.7
20°	925.5	926.8	932.0	943.6	944.8
22.5°	904.9	908.8	915.2	926.8	930.7
25°	881.7	886.8	894.6	910.0	912.6
27.5°	859.8	863.6	873.9	890.7	895.9
30°	832.7	839.1	852.0	868.8	875.2
32.5°	806.9	813.4	828.8	846.9	852.0
35°	774.7	783.7	801.8	822.4	828.8
37.5°	743.8	752.8	774.7	797.9	805.6
40°	711.5	721.8	745.0	772.1	782.4
42.5°	676.7	690.9	716.7	746.3	757.9
45°	641.9	654.8	687.0	720.6	733.4
47.5°	604.5	620.0	654.8	694.8	710.2
50°	564.6	583.9	623.9	667.7	684.5
52.5°	524.6	546.5	591.7	640.6	658.7
55°	486.0	506.6	560.7	613.6	632.9
57.5°	443.4	469.2	528.5	585.2	604.5
60°	399.6	428.0	496.3	555.6	576.2
62.5°	355.8	388.0	465.3	524.6	546.5
65°	311.9	348.0	429.2	492.4	514.3
67.5°	269.4	309.4	395.7	458.9	480.8
70°	220.4	270.7	359.6	421.5	443.4
72.5°	175.3	233.3	324.8	382.8	402.2
75°	135.3	197.2	286.2	339.0	346.7
77.5°	99.3	161.1	246.2	264.2	265.5
80°	67.0	128.9	188.2	185.6	188.2
82.5°	43.8	96.7	118.6	132.8	134.1
85°	25.8	56.7	69.6	77.3	78.6
87.5°	12.9	19.3	24.5	25.8	28.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)