

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: P310702

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CP187-W2A-U-5000K**

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: P310702
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-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 3588.0 lumens
Efficiency: N/A
Efficacy: 115.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

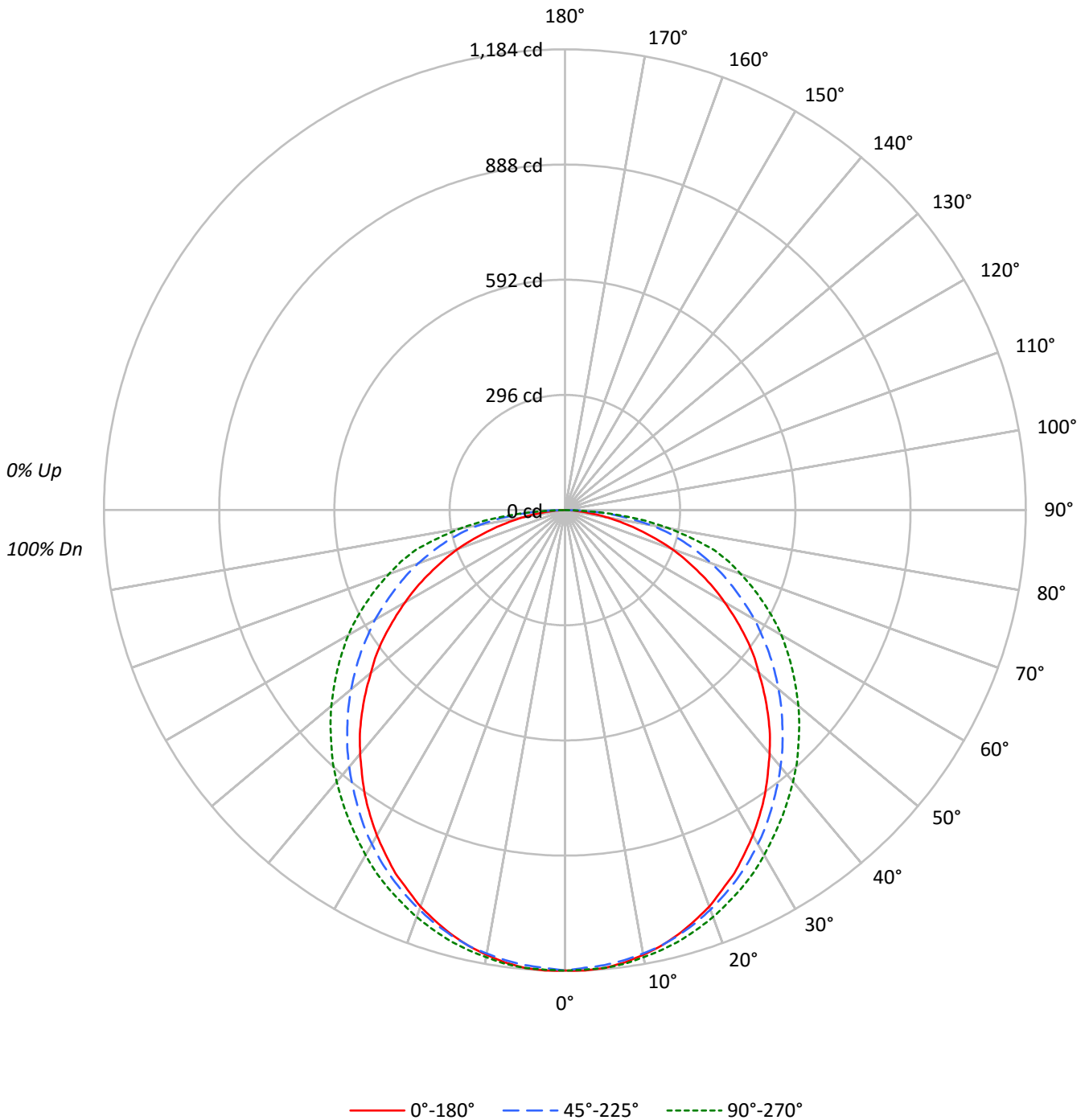
Input Watts (W): 31.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1592	1592	1592
5°	1595	1585	1595
10°	1586	1581	1594
15°	1572	1575	1595
20°	1553	1565	1594
25°	1529	1553	1592
30°	1500	1541	1591
35°	1470	1525	1592
40°	1436	1514	1602
45°	1402	1504	1615
50°	1361	1500	1640
55°	1327	1502	1673
60°	1275	1515	1730
65°	1216	1531	1793
70°	1152	1578	1892
75°	1027	1646	2067
80°	876	1743	2112
85°	625	1727	2021



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.0	3.1
10°-20°	320.2	8.9
20°-30°	483.6	13.5
30°-40°	582.9	16.2
40°-50°	611.9	17.1
50°-60°	572.5	16.0
60°-70°	472.8	13.2
70°-80°	322.2	9.0
80°-90°	109.9	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°	915.8	25.5
0°-40°	1498.7	41.8
0°-60°	2683.2	74.8
0°-90°	3588.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3588.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1183	1183	1183	1183	1183	
5°	1181	1180	1174	1181	1181	112
15°	1128	1130	1131	1143	1145	318
25°	1030	1034	1046	1067	1073	474
35°	895	905	928	960	969	559
45°	737	752	790	833	849	568
55°	566	588	640	693	713	505
65°	382	414	481	542	563	379
75°	198	243	317	376	398	211
85°	40	80	112	126	131	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1183.3	1183.3	1183.3	1183.3	1183.3
2.5°	1184.5	1183.3	1177.3	1183.3	1182.1
5°	1180.9	1179.7	1173.8	1180.9	1180.9
7.5°	1172.6	1172.6	1166.6	1175.0	1176.1
10°	1160.7	1160.7	1157.1	1166.6	1166.6
12.5°	1146.4	1146.4	1146.4	1155.9	1157.1
15°	1128.5	1129.7	1130.9	1142.8	1145.2
17.5°	1107.1	1109.5	1113.1	1127.3	1129.7
20°	1084.5	1086.9	1092.8	1109.5	1113.1
22.5°	1055.9	1061.9	1070.2	1089.2	1092.8
25°	1029.7	1034.5	1046.4	1066.6	1072.6
27.5°	997.6	1004.7	1020.2	1041.6	1050.0
30°	965.4	972.6	991.6	1016.6	1023.8
32.5°	930.9	941.6	961.9	988.1	996.4
35°	895.2	904.7	928.5	959.5	969.0
37.5°	855.9	869.0	895.2	928.5	940.4
40°	817.8	832.1	861.9	897.6	911.9
42.5°	779.7	794.0	827.4	867.8	882.1
45°	736.9	752.4	790.4	833.3	848.8
47.5°	694.0	713.1	754.7	800.0	816.6
50°	650.0	671.4	716.6	764.3	783.3
52.5°	610.7	630.9	678.5	729.7	747.6
55°	565.5	588.1	640.5	692.8	713.1
57.5°	519.0	544.0	600.0	657.1	677.4
60°	473.8	501.2	563.1	620.2	642.8
62.5°	429.7	457.1	521.4	580.9	603.5
65°	382.1	414.3	480.9	541.6	563.1
67.5°	336.9	371.4	441.7	501.2	522.6
70°	292.8	326.2	401.2	459.5	480.9
72.5°	245.2	283.3	358.3	419.0	441.7
75°	197.6	242.8	316.7	376.2	397.6
77.5°	153.6	200.0	273.8	322.6	333.3
80°	113.1	160.7	225.0	259.5	272.6
82.5°	72.6	120.2	171.4	196.4	207.1
85°	40.5	79.8	111.9	126.2	130.9
87.5°	16.7	34.5	45.2	51.2	51.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)