

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: P310704

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CP187-W2A-U-5700K**

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: P310704
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-5700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5700K 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: 3632.0 lumens
Efficiency: N/A
Efficacy: 116.0 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

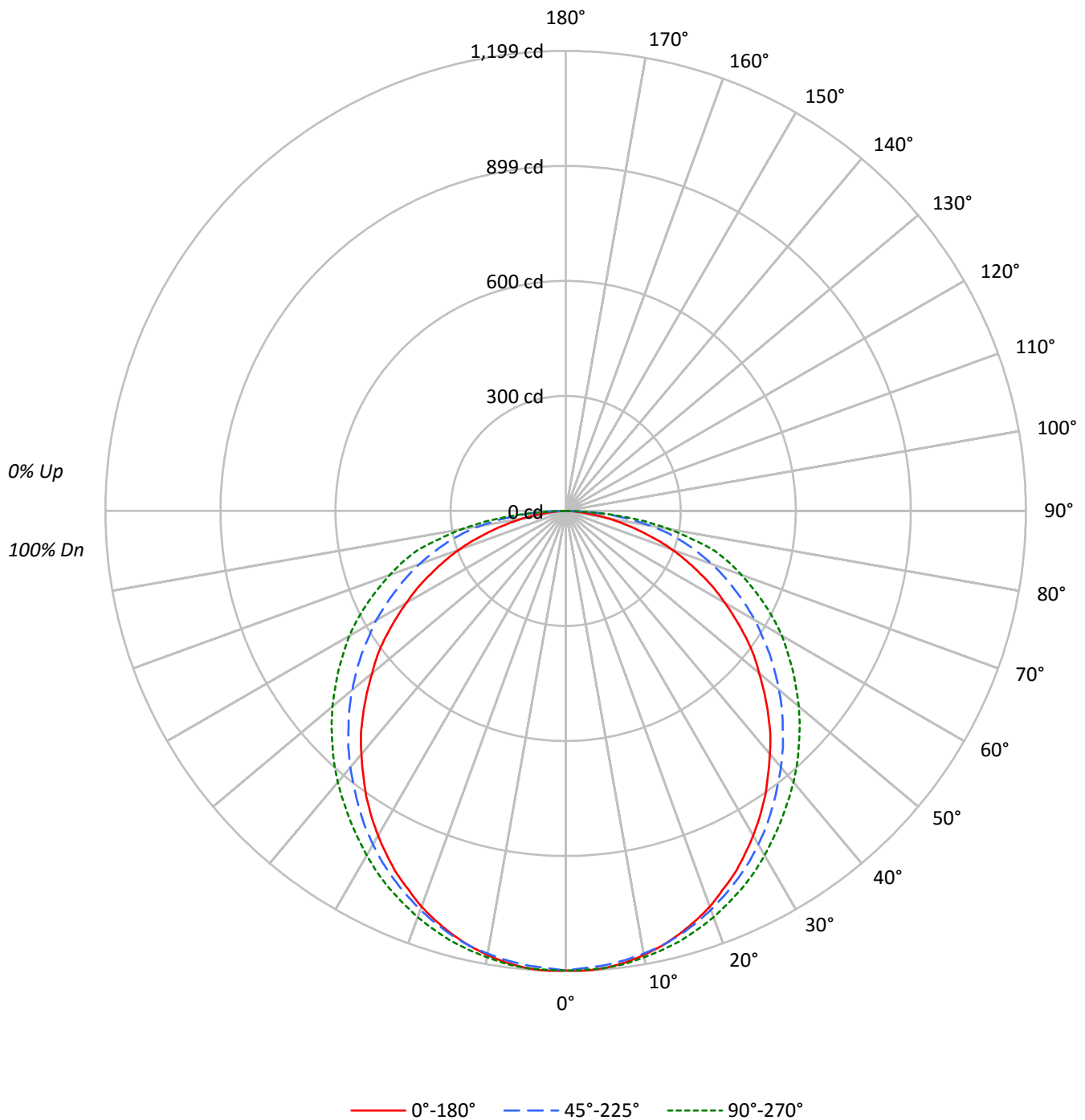
Input Watts (W): 31.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	1612	1612	1612
5°	1615	1605	1615
10°	1605	1600	1613
15°	1591	1595	1615
20°	1572	1584	1613
25°	1548	1572	1612
30°	1518	1560	1610
35°	1488	1544	1611
40°	1454	1532	1621
45°	1419	1522	1635
50°	1377	1518	1660
55°	1343	1521	1693
60°	1291	1534	1751
65°	1231	1550	1815
70°	1166	1598	1915
75°	1040	1666	2092
80°	887	1765	2139
85°	633	1749	2047



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.4	3.1
10°-20°	324.1	8.9
20°-30°	489.6	13.5
30°-40°	590.0	16.2
40°-50°	619.4	17.1
50°-60°	579.5	16.0
60°-70°	478.6	13.2
70°-80°	326.1	9.0
80°-90°	111.2	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°	927.1	25.5
0°-40°	1517.1	41.8
0°-60°	2716.1	74.8
0°-90°	3632.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3632.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1198	1198	1198	1198	1198	
5°	1195	1194	1188	1195	1195	113
15°	1142	1144	1145	1157	1159	322
25°	1042	1047	1059	1080	1086	480
35°	906	916	940	971	981	566
45°	746	762	800	844	859	575
55°	572	595	648	701	722	511
65°	387	419	487	548	570	384
75°	200	246	320	381	402	213
85°	41	81	113	128	133	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1197.8	1197.8	1197.8	1197.8	1197.8
2.5°	1199.0	1197.8	1191.8	1197.8	1196.6
5°	1195.4	1194.2	1188.2	1195.4	1195.4
7.5°	1187.0	1187.0	1180.9	1189.4	1190.6
10°	1174.9	1174.9	1171.3	1180.9	1180.9
12.5°	1160.4	1160.4	1160.4	1170.1	1171.3
15°	1142.4	1143.6	1144.8	1156.8	1159.2
17.5°	1120.7	1123.1	1126.7	1141.2	1143.6
20°	1097.8	1100.2	1106.2	1123.1	1126.7
22.5°	1068.9	1074.9	1083.3	1102.6	1106.2
25°	1042.4	1047.2	1059.2	1079.7	1085.7
27.5°	1009.8	1017.0	1032.7	1054.4	1062.8
30°	977.3	984.5	1003.8	1029.1	1036.3
32.5°	942.3	953.2	973.7	1000.2	1008.6
35°	906.2	915.8	939.9	971.3	980.9
37.5°	866.4	879.7	906.2	939.9	952.0
40°	827.9	842.3	872.4	908.6	923.1
42.5°	789.3	803.8	837.5	878.5	892.9
45°	745.9	761.6	800.1	843.5	859.2
47.5°	702.5	721.8	764.0	809.8	826.7
50°	657.9	679.6	725.4	773.6	792.9
52.5°	618.2	638.7	686.9	738.7	756.8
55°	572.4	595.3	648.3	701.3	721.8
57.5°	525.4	550.7	607.3	665.2	685.7
60°	479.6	507.3	570.0	627.8	650.7
62.5°	435.0	462.7	527.8	588.1	611.0
65°	386.8	419.4	486.8	548.3	570.0
67.5°	341.0	376.0	447.1	507.3	529.0
70°	296.4	330.2	406.1	465.1	486.8
72.5°	248.2	286.8	362.7	424.2	447.1
75°	200.0	245.8	320.5	380.8	402.5
77.5°	155.4	202.4	277.2	326.6	337.4
80°	114.5	162.7	227.8	262.7	276.0
82.5°	73.5	121.7	173.5	198.8	209.7
85°	41.0	80.7	113.3	127.7	132.6
87.5°	16.9	34.9	45.8	51.8	51.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)