

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: P310705

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CP187-W2A-U-6500K**

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: P310705
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-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 6500K 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: 3642.0 lumens
Efficiency: N/A
Efficacy: 114.5 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

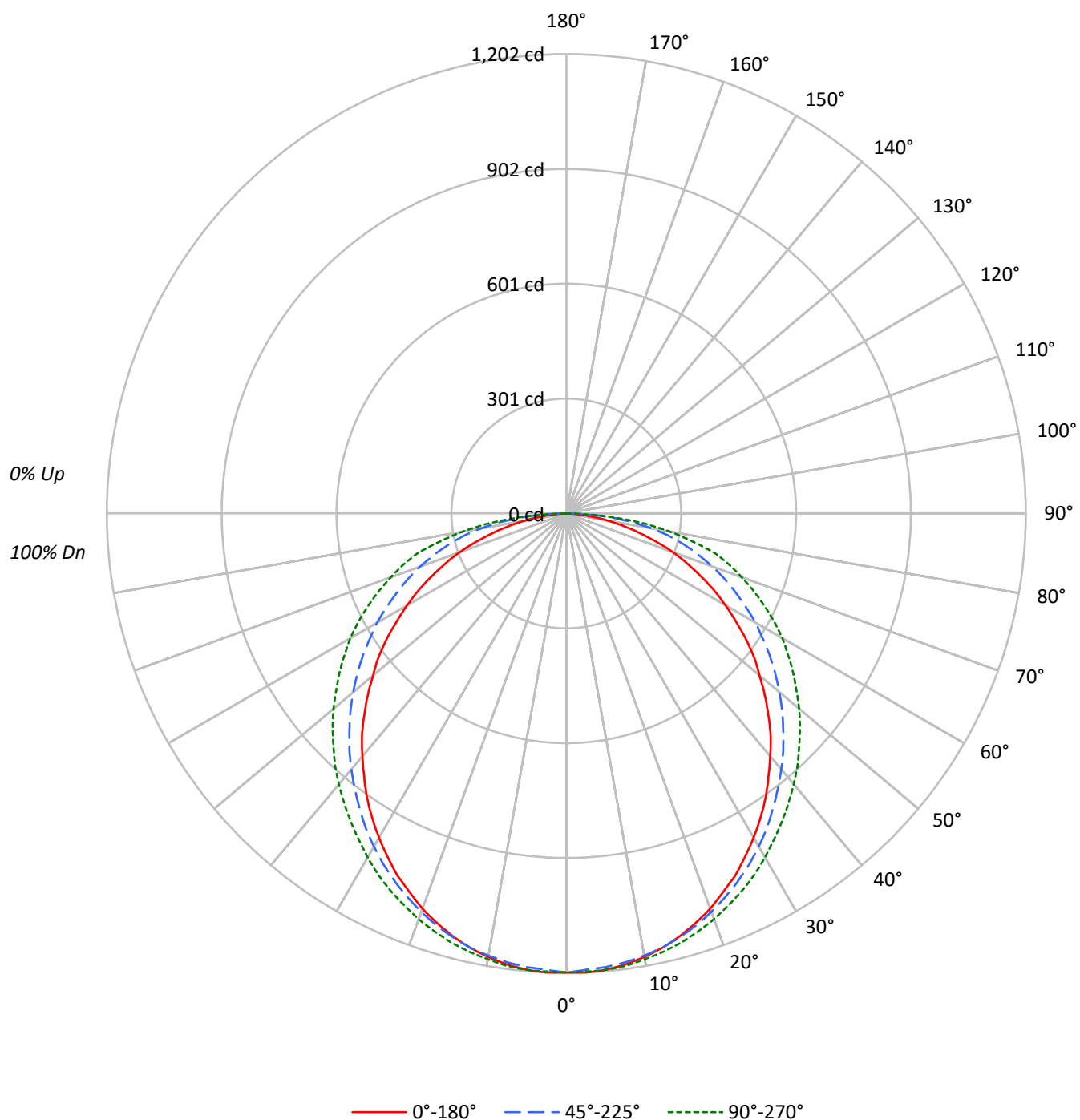
Input Watts (W): 31.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1616	1616	1616
5°	1619	1609	1619
10°	1610	1605	1618
15°	1596	1599	1619
20°	1576	1588	1618
25°	1552	1577	1616
30°	1523	1564	1615
35°	1493	1548	1616
40°	1458	1537	1626
45°	1423	1527	1639
50°	1381	1523	1664
55°	1346	1525	1698
60°	1294	1538	1756
65°	1235	1554	1819
70°	1170	1602	1921
75°	1043	1671	2098
80°	890	1770	2144
85°	634	1754	2052



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.7	3.1
10°-20°	325.0	8.9
20°-30°	490.9	13.5
30°-40°	591.7	16.2
40°-50°	621.1	17.1
50°-60°	581.1	16.0
60°-70°	479.9	13.2
70°-80°	327.0	9.0
80°-90°	111.5	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°	929.6	25.5
0°-40°	1521.3	41.8
0°-60°	2723.5	74.8
0°-90°	3642.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3642.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1201	1201	1201	1201	1201	
5°	1199	1198	1191	1199	1199	114
15°	1146	1147	1148	1160	1162	323
25°	1045	1050	1062	1083	1089	481
35°	909	918	942	974	984	568
45°	748	764	802	846	862	577
55°	574	597	650	703	724	512
65°	388	420	488	550	572	385
75°	201	246	321	382	404	214
85°	41	81	114	128	133	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1201.1	1201.1	1201.1	1201.1	1201.1
2.5°	1202.3	1201.1	1195.1	1201.1	1199.9
5°	1198.7	1197.5	1191.4	1198.7	1198.7
7.5°	1190.2	1190.2	1184.2	1192.6	1193.8
10°	1178.1	1178.1	1174.5	1184.2	1184.2
12.5°	1163.6	1163.6	1163.6	1173.3	1174.5
15°	1145.5	1146.7	1147.9	1160.0	1162.4
17.5°	1123.8	1126.2	1129.8	1144.3	1146.7
20°	1100.8	1103.2	1109.3	1126.2	1129.8
22.5°	1071.8	1077.8	1086.3	1105.6	1109.3
25°	1045.2	1050.1	1062.1	1082.7	1088.7
27.5°	1012.6	1019.8	1035.6	1057.3	1065.8
30°	980.0	987.2	1006.6	1031.9	1039.2
32.5°	944.9	955.8	976.3	1002.9	1011.4
35°	908.7	918.3	942.5	973.9	983.6
37.5°	868.8	882.1	908.7	942.5	954.6
40°	830.1	844.6	874.8	911.1	925.6
42.5°	791.5	806.0	839.8	880.9	895.4
45°	748.0	763.7	802.3	845.8	861.6
47.5°	704.5	723.8	766.1	812.0	828.9
50°	659.8	681.5	727.4	775.8	795.1
52.5°	619.9	640.4	688.8	740.7	758.8
55°	574.0	596.9	650.1	703.3	723.8
57.5°	526.8	552.2	609.0	667.0	687.6
60°	480.9	508.7	571.5	629.6	652.5
62.5°	436.2	464.0	529.3	589.7	612.6
65°	387.9	420.5	488.2	549.8	571.5
67.5°	342.0	377.0	448.3	508.7	530.5
70°	297.3	331.1	407.2	466.4	488.2
72.5°	248.9	287.6	363.7	425.3	448.3
75°	200.6	246.5	321.4	381.8	403.6
77.5°	155.9	203.0	277.9	327.5	338.3
80°	114.8	163.1	228.4	263.4	276.7
82.5°	73.7	122.0	174.0	199.4	210.3
85°	41.1	81.0	113.6	128.1	132.9
87.5°	16.9	35.0	45.9	52.0	52.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)