

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: P311059

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-CP187-W2A-U-3500K**

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: P311059
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: 24FCZ2-65HE-UNV-L82765-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3500K 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: 5462.0 lumens
Efficiency: N/A
Efficacy: 103.4 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

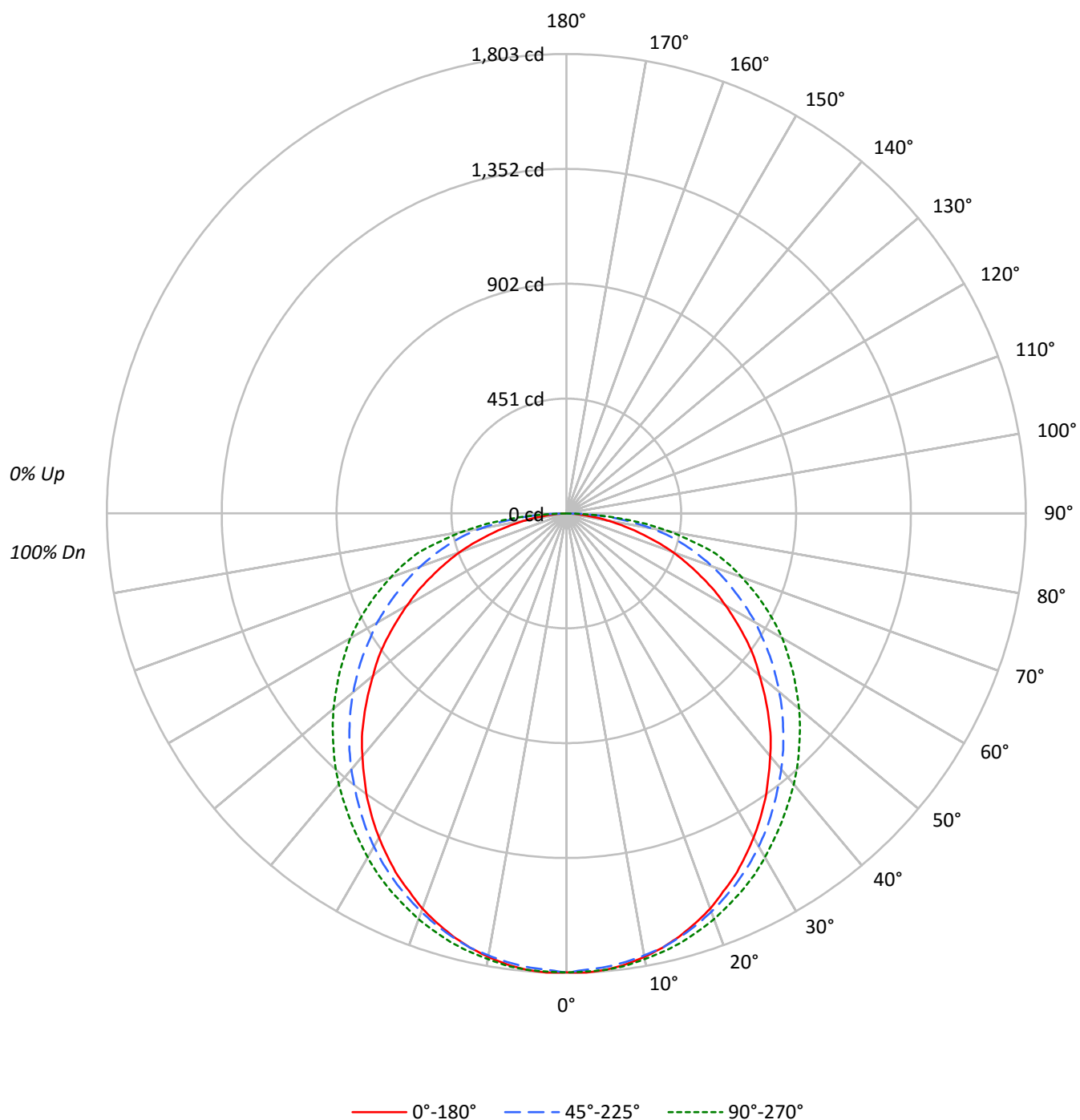
Input Watts (W): 52.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2424	2424	2424
5°	2428	2413	2428
10°	2414	2407	2426
15°	2393	2398	2428
20°	2364	2382	2426
25°	2327	2365	2424
30°	2283	2345	2421
35°	2238	2322	2423
40°	2187	2304	2438
45°	2134	2290	2459
50°	2071	2283	2496
55°	2019	2287	2546
60°	1941	2307	2633
65°	1852	2331	2729
70°	1754	2402	2880
75°	1564	2506	3147
80°	1334	2654	3216
85°	951	2629	3077



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.5	3.1
10°-20°	487.4	8.9
20°-30°	736.2	13.5
30°-40°	887.3	16.2
40°-50°	931.5	17.1
50°-60°	871.5	16.0
60°-70°	719.7	13.2
70°-80°	490.4	9.0
80°-90°	167.3	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°	1394.2	25.5
0°-40°	2281.5	41.8
0°-60°	4084.6	74.8
0°-90°	5462.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5462.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1801	1801	1801	1801	1801	
5°	1798	1796	1787	1798	1798	171
15°	1718	1720	1722	1740	1743	484
25°	1568	1575	1593	1624	1633	721
35°	1363	1377	1414	1461	1475	852
45°	1122	1145	1203	1268	1292	865
55°	861	895	975	1055	1086	768
65°	582	631	732	824	857	577
75°	301	370	482	573	605	321
85°	62	121	170	192	199	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1801.3	1801.3	1801.3	1801.3	1801.3
2.5°	1803.1	1801.3	1792.3	1801.3	1799.5
5°	1797.7	1795.9	1786.8	1797.7	1797.7
7.5°	1785.0	1785.0	1775.9	1788.6	1790.4
10°	1766.9	1766.9	1761.5	1775.9	1775.9
12.5°	1745.1	1745.1	1745.1	1759.6	1761.5
15°	1718.0	1719.8	1721.6	1739.7	1743.3
17.5°	1685.3	1689.0	1694.4	1716.1	1719.8
20°	1650.9	1654.5	1663.6	1689.0	1694.4
22.5°	1607.4	1616.5	1629.2	1658.2	1663.6
25°	1567.5	1574.8	1592.9	1623.7	1632.8
27.5°	1518.6	1529.5	1553.0	1585.7	1598.4
30°	1469.7	1480.6	1509.6	1547.6	1558.5
32.5°	1417.1	1433.4	1464.3	1504.1	1516.8
35°	1362.8	1377.3	1413.5	1460.6	1475.1
37.5°	1303.0	1322.9	1362.8	1413.5	1431.6
40°	1245.0	1266.7	1312.0	1366.4	1388.1
42.5°	1187.0	1208.7	1259.5	1321.1	1342.8
45°	1121.7	1145.3	1203.3	1268.5	1292.1
47.5°	1056.5	1085.5	1148.9	1217.8	1243.2
50°	989.5	1022.1	1090.9	1163.4	1192.4
52.5°	929.7	960.5	1033.0	1110.9	1138.1
55°	860.8	895.2	975.0	1054.7	1085.5
57.5°	790.1	828.2	913.3	1000.3	1031.1
60°	721.3	762.9	857.2	944.2	978.6
62.5°	654.2	695.9	793.7	884.4	918.8
65°	581.7	630.6	732.1	824.5	857.2
67.5°	512.9	565.4	672.3	762.9	795.6
70°	445.8	496.5	610.7	699.5	732.1
72.5°	373.3	431.3	545.5	637.9	672.3
75°	300.8	369.7	482.0	572.7	605.3
77.5°	233.8	304.4	416.8	491.1	507.4
80°	172.2	244.6	342.5	395.1	415.0
82.5°	110.5	183.0	261.0	299.0	315.3
85°	61.6	121.4	170.3	192.1	199.3
87.5°	25.4	52.6	68.9	77.9	77.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)