

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: P309758

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CP187-W2A-U-5500K**

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: P309758
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: 24FCZ2-70HE-UNV-L82765-HRP-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 5500K 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: 4758.0 lumens
Efficiency: N/A
Efficacy: 80.2 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

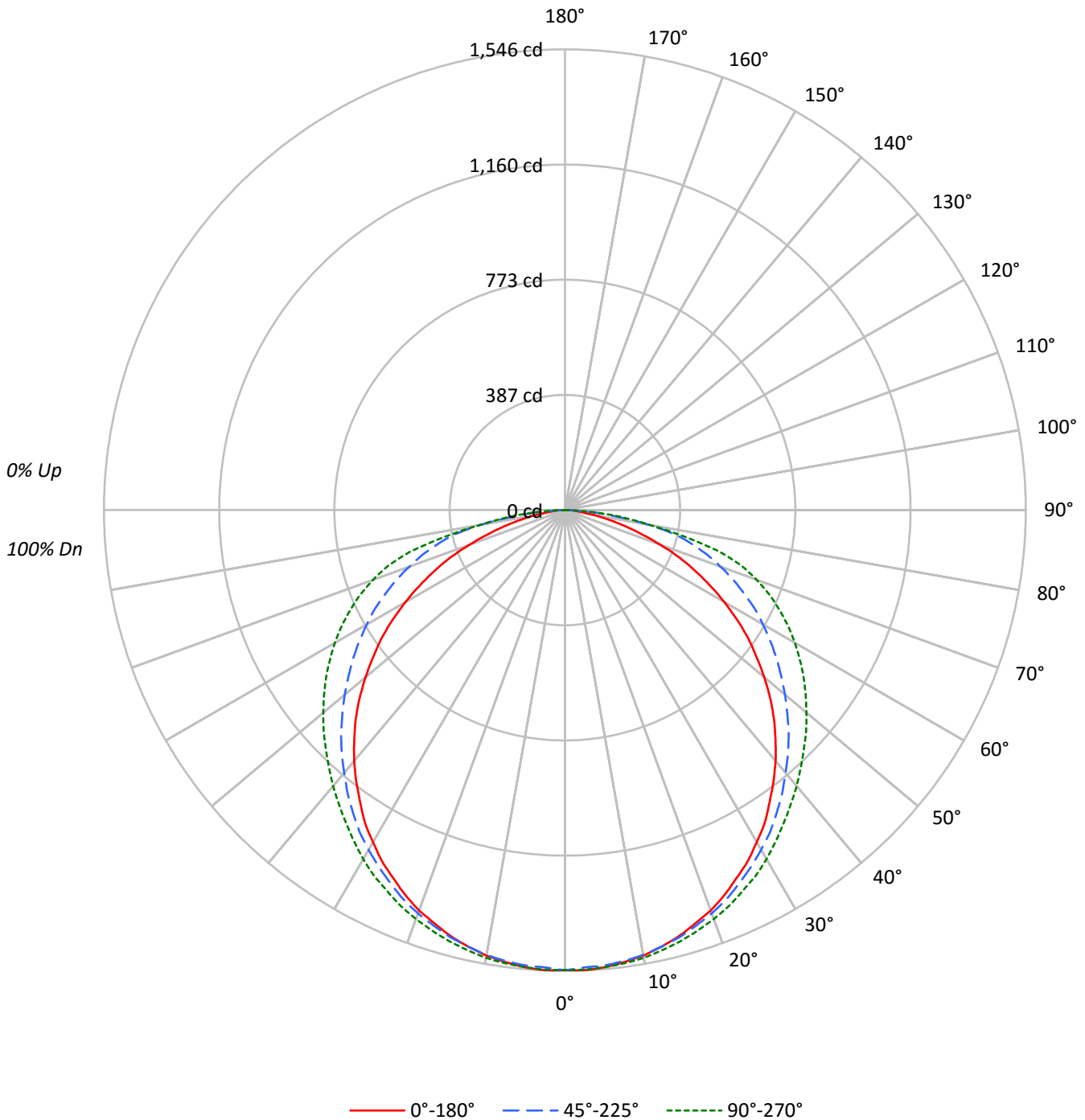
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	2077	2077	2077
5°	2080	2072	2080
10°	2074	2071	2085
15°	2062	2067	2087
20°	2048	2062	2091
25°	2023	2052	2094
30°	1999	2046	2101
35°	1966	2035	2104
40°	1931	2022	2124
45°	1888	2020	2157
50°	1826	2018	2214
55°	1762	2033	2294
60°	1662	2064	2396
65°	1535	2112	2530
70°	1340	2186	2696
75°	1088	2299	2785
80°	803	2253	2253
85°	614	1661	1876



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.2	3.1
10°-20°	419.9	8.8
20°-30°	639.3	13.4
30°-40°	776.3	16.3
40°-50°	820.1	17.2
50°-60°	773.9	16.3
60°-70°	643.5	13.5
70°-80°	423.3	8.9
80°-90°	115.4	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°	1205.5	25.3
0°-40°	1981.8	41.7
0°-60°	3575.8	75.2
0°-90°	4758.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4758.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1544	1544	1544	1544	1544	
5°	1540	1540	1534	1540	1540	146
15°	1480	1482	1484	1498	1498	417
25°	1362	1370	1382	1406	1410	628
35°	1197	1211	1239	1271	1281	749
45°	992	1012	1062	1114	1133	764
55°	751	783	866	948	978	669
65°	482	538	663	761	795	477
75°	209	305	442	524	536	225
85°	40	88	108	120	122	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1543.7	1543.7	1543.7	1543.7	1543.7
2.5°	1545.7	1543.7	1535.8	1543.7	1543.7
5°	1539.8	1539.8	1533.8	1539.8	1539.8
7.5°	1529.8	1529.8	1525.8	1533.8	1533.8
10°	1517.8	1517.8	1515.8	1525.8	1525.8
12.5°	1499.9	1501.9	1499.9	1511.9	1511.9
15°	1480.0	1482.0	1484.0	1497.9	1497.9
17.5°	1454.1	1458.1	1462.1	1478.0	1480.0
20°	1430.2	1432.2	1440.2	1458.1	1460.1
22.5°	1398.3	1404.3	1414.3	1432.2	1438.2
25°	1362.5	1370.4	1382.4	1406.3	1410.3
27.5°	1328.6	1334.6	1350.5	1376.4	1384.4
30°	1286.8	1296.7	1316.7	1342.6	1352.5
32.5°	1246.9	1256.9	1280.8	1308.7	1316.7
35°	1197.1	1211.1	1239.0	1270.8	1280.8
37.5°	1149.3	1163.3	1197.1	1233.0	1244.9
40°	1099.5	1115.5	1151.3	1193.2	1209.1
42.5°	1045.8	1067.7	1107.5	1153.3	1171.2
45°	992.0	1011.9	1061.7	1113.5	1133.4
47.5°	934.2	958.1	1011.9	1073.6	1097.5
50°	872.5	902.3	964.1	1031.8	1057.7
52.5°	810.7	844.6	914.3	990.0	1017.9
55°	751.0	782.8	866.5	948.2	978.0
57.5°	685.2	725.1	816.7	904.3	934.2
60°	617.5	661.3	766.9	858.5	890.4
62.5°	549.8	599.6	719.1	810.7	844.6
65°	482.0	537.8	663.3	760.9	794.8
67.5°	416.3	478.1	611.5	709.1	743.0
70°	340.6	418.3	555.7	651.4	685.2
72.5°	270.9	360.5	502.0	591.6	621.5
75°	209.2	304.8	442.2	523.9	535.8
77.5°	153.4	249.0	380.5	408.3	410.3
80°	103.6	199.2	290.8	286.8	290.8
82.5°	67.7	149.4	183.3	205.2	207.2
85°	39.8	87.6	107.6	119.5	121.5
87.5°	19.9	29.9	37.8	39.8	43.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)