

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: P311115

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CP250-W2A-U-4500K**

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: P311115
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: 24FCZ2-70HE-UNV-L82765-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4500K 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: 6078.0 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

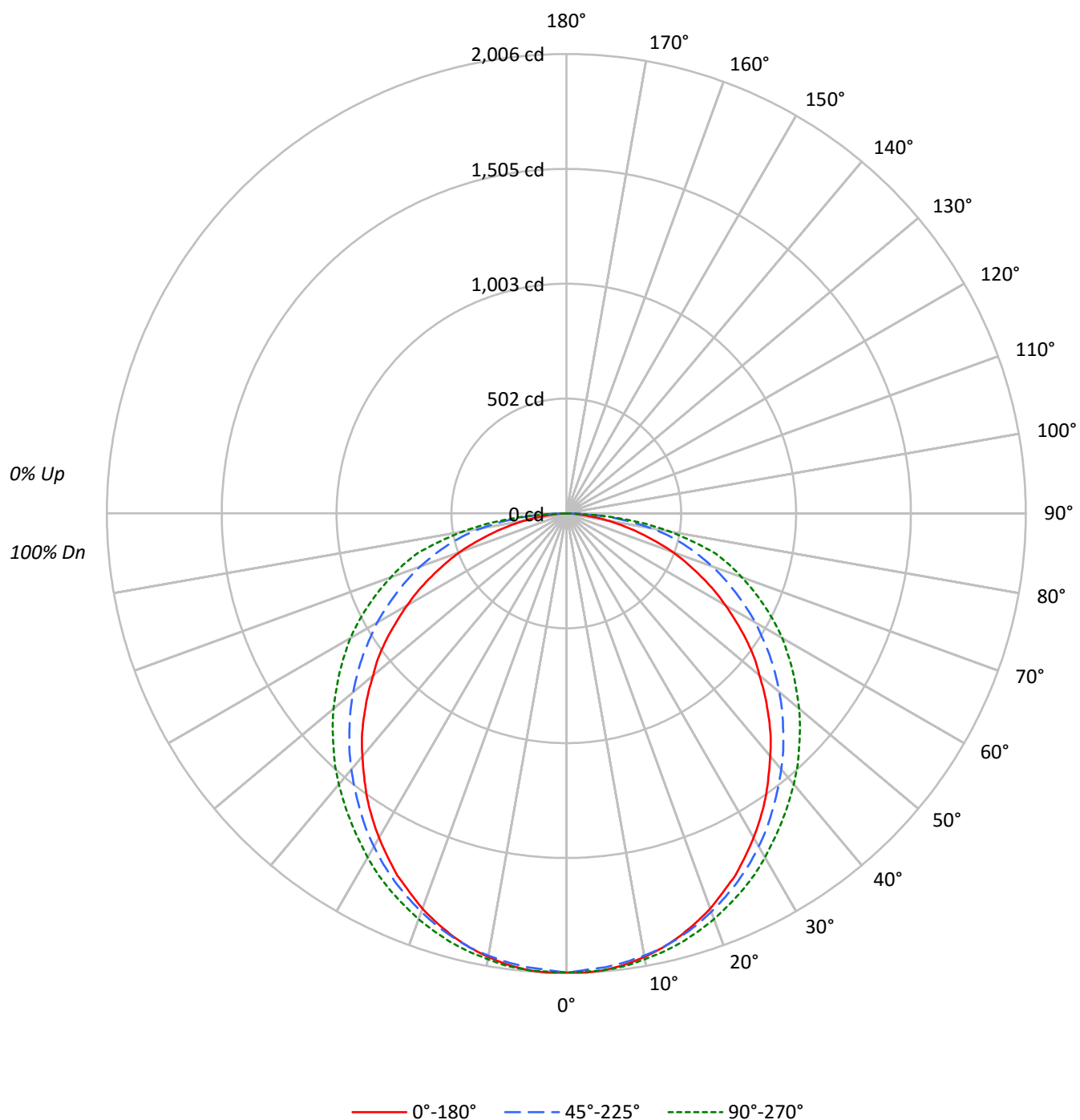
Input Watts (W): 58.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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		50	30	10
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	108	103	98	94	105	100	96	92		96	92	89		92	89	87		88	86	84
2	98	89	81	75	95	87	80	74		83	78	73		80	75	71		77	73	69
3	89	77	69	62	86	76	68	61		73	66	60		70	64	59		67	62	58
4	81	68	59	52	79	67	58	52		64	57	51		62	56	50		60	54	50
5	74	61	52	45	72	60	51	44		58	50	44		56	49	43		54	48	43
6	69	55	46	39	67	54	45	39		52	44	38		50	43	38		49	42	38
7	64	50	41	34	62	49	40	34		47	39	34		46	39	34		44	38	33
8	59	45	37	31	57	45	36	30		43	36	30		42	35	30		41	34	30
9	55	41	33	27	54	41	33	27		40	32	27		39	32	27		38	31	27
10	52	38	30	25	50	38	30	25		37	30	25		36	29	25		35	29	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2697	2697	2697
5°	2702	2685	2702
10°	2686	2678	2700
15°	2663	2668	2702
20°	2630	2651	2700
25°	2590	2632	2697
30°	2541	2610	2694
35°	2491	2584	2696
40°	2433	2564	2713
45°	2375	2548	2736
50°	2305	2541	2777
55°	2247	2545	2833
60°	2160	2567	2930
65°	2061	2594	3037
70°	1952	2674	3205
75°	1740	2789	3501
80°	1485	2953	3578
85°	1059	2927	3424



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.7	3.1
10°-20°	542.4	8.9
20°-30°	819.3	13.5
30°-40°	987.4	16.2
40°-50°	1036.6	17.1
50°-60°	969.8	16.0
60°-70°	800.9	13.2
70°-80°	545.7	9.0
80°-90°	186.1	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°	1551.4	25.5
0°-40°	2538.8	41.8
0°-60°	4545.2	74.8
0°-90°	6078.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6078.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2004	2004	2004	2004	2004	
5°	2000	1998	1988	2000	2000	190
15°	1912	1914	1916	1936	1940	539
25°	1744	1752	1773	1807	1817	803
35°	1516	1533	1573	1625	1642	948
45°	1248	1274	1339	1412	1438	963
55°	958	996	1085	1174	1208	855
65°	647	702	815	918	954	642
75°	335	411	536	637	674	357
85°	69	135	190	214	222	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2004.5	2004.5	2004.5	2004.5	2004.5
2.5°	2006.5	2004.5	1994.4	2004.5	2002.5
5°	2000.4	1998.4	1988.3	2000.4	2000.4
7.5°	1986.3	1986.3	1976.2	1990.4	1992.4
10°	1966.2	1966.2	1960.1	1976.2	1976.2
12.5°	1942.0	1942.0	1942.0	1958.1	1960.1
15°	1911.7	1913.7	1915.7	1935.9	1939.9
17.5°	1875.4	1879.4	1885.5	1909.7	1913.7
20°	1837.1	1841.1	1851.2	1879.4	1885.5
22.5°	1788.7	1798.8	1812.9	1845.2	1851.2
25°	1744.3	1752.4	1772.6	1806.8	1816.9
27.5°	1689.9	1702.0	1728.2	1764.5	1778.6
30°	1635.4	1647.5	1679.8	1722.2	1734.3
32.5°	1577.0	1595.1	1629.4	1673.8	1687.9
35°	1516.5	1532.6	1572.9	1625.4	1641.5
37.5°	1449.9	1472.1	1516.5	1572.9	1593.1
40°	1385.4	1409.6	1460.0	1520.5	1544.7
42.5°	1320.9	1345.1	1401.5	1470.1	1494.3
45°	1248.3	1274.5	1339.0	1411.6	1437.8
47.5°	1175.7	1207.9	1278.5	1355.1	1383.4
50°	1101.0	1137.3	1214.0	1294.6	1326.9
52.5°	1034.5	1068.8	1149.4	1236.2	1266.4
55°	957.9	996.2	1084.9	1173.6	1207.9
57.5°	879.2	921.6	1016.4	1113.1	1147.4
60°	802.6	849.0	953.8	1050.6	1088.9
62.5°	728.0	774.4	883.3	984.1	1022.4
65°	647.3	701.8	814.7	917.5	953.8
67.5°	570.7	629.2	748.1	849.0	885.3
70°	496.1	552.5	679.6	778.4	814.7
72.5°	415.4	479.9	607.0	709.8	748.1
75°	334.8	411.4	536.4	637.2	673.5
77.5°	260.1	338.8	463.8	546.5	564.6
80°	191.6	272.2	381.1	439.6	461.8
82.5°	123.0	203.7	290.4	332.7	350.9
85°	68.6	135.1	189.6	213.8	221.8
87.5°	28.2	58.5	76.6	86.7	86.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)