

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: P311733

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-S-CP187-W2A-U-3000K**

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: P311733
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3000K 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: 5547.0 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

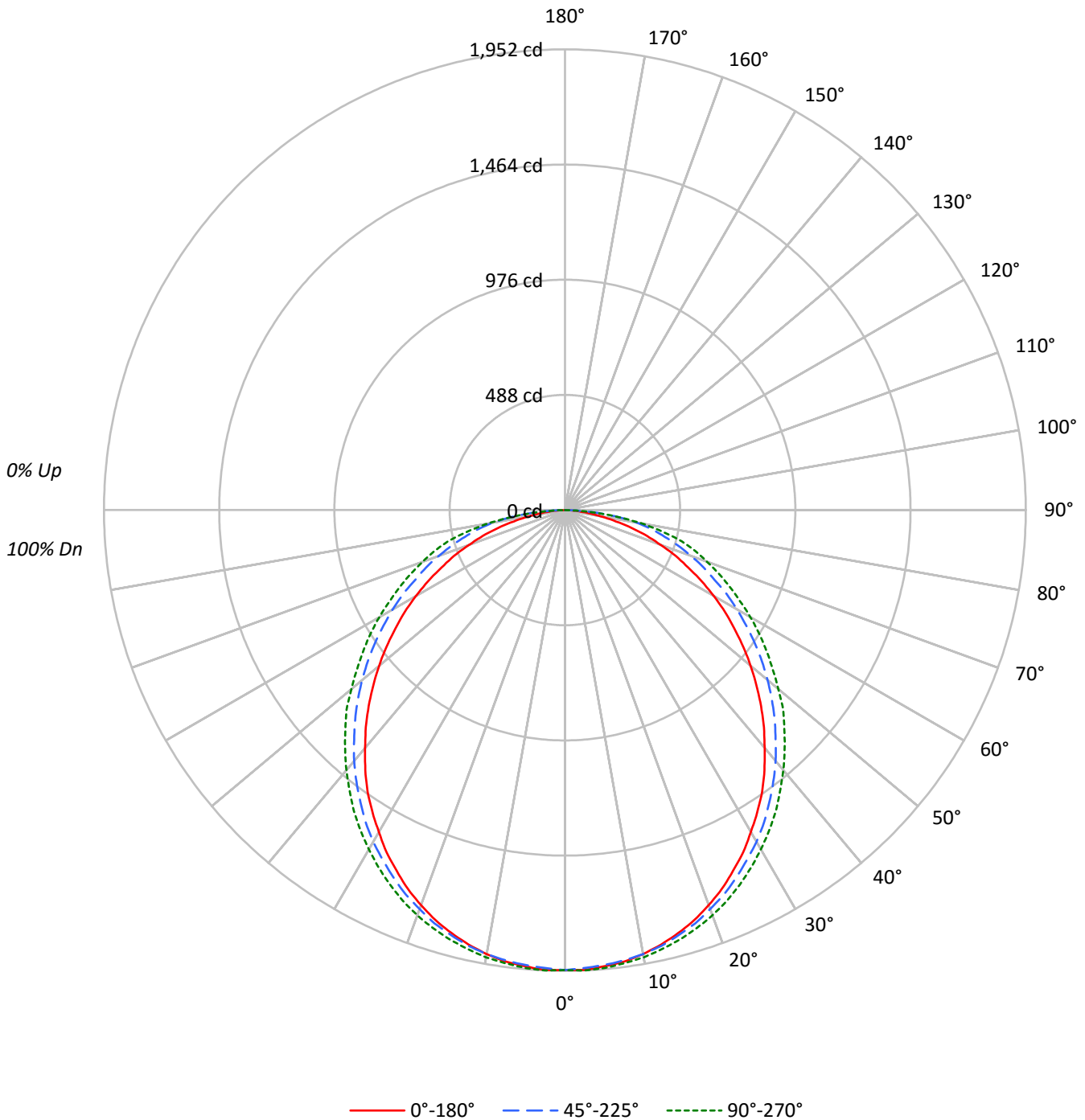
Input Watts (W): 52.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2622	2622	2622
5°	2620	2613	2630
10°	2609	2609	2629
15°	2584	2597	2624
20°	2551	2576	2616
25°	2503	2550	2600
30°	2447	2521	2579
35°	2393	2480	2558
40°	2312	2439	2528
45°	2236	2390	2501
50°	2150	2346	2471
55°	2054	2302	2447
60°	1958	2266	2442
65°	1834	2227	2457
70°	1698	2239	2523
75°	1521	2281	2665
80°	1229	2417	2607
85°	925	2121	2067



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.5	3.3
10°-20°	527.1	9.5
20°-30°	792.4	14.3
30°-40°	943.9	17.0
40°-50°	966.0	17.4
50°-60°	869.7	15.7
60°-70°	683.0	12.3
70°-80°	443.3	8.0
80°-90°	137.1	2.5
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°	1504.0	27.1
0°-40°	2447.9	44.1
0°-60°	4283.6	77.2
0°-90°	5547.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5547.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1949	1949	1949	1949	1949	
5°	1940	1943	1935	1945	1947	184
15°	1855	1861	1864	1880	1884	523
25°	1686	1700	1718	1746	1751	777
35°	1457	1475	1510	1547	1558	909
45°	1175	1203	1256	1304	1314	906
55°	876	914	981	1032	1043	785
65°	576	620	700	758	772	574
75°	292	349	439	499	513	310
85°	60	111	137	134	134	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1948.7	1948.7	1948.7	1948.7	1948.7
2.5°	1950.5	1950.5	1941.6	1950.5	1952.2
5°	1939.9	1943.4	1934.6	1945.2	1946.9
7.5°	1929.3	1929.3	1924.0	1934.6	1936.4
10°	1909.9	1911.7	1909.9	1922.3	1924.0
12.5°	1885.3	1888.8	1890.6	1902.9	1904.6
15°	1855.3	1860.6	1864.1	1880.0	1883.5
17.5°	1821.8	1827.1	1835.9	1853.6	1857.1
20°	1781.3	1788.4	1798.9	1821.8	1827.1
22.5°	1737.3	1744.3	1761.9	1783.1	1791.9
25°	1686.2	1700.3	1717.9	1746.1	1751.4
27.5°	1635.1	1647.4	1670.3	1700.3	1707.3
30°	1575.2	1594.5	1622.7	1652.7	1659.7
32.5°	1517.0	1536.4	1569.9	1601.6	1610.4
35°	1457.1	1474.7	1510.0	1547.0	1557.5
37.5°	1388.4	1411.3	1450.1	1487.1	1497.6
40°	1316.2	1344.4	1388.4	1427.2	1439.5
42.5°	1247.4	1277.4	1321.4	1363.7	1377.8
45°	1175.2	1203.4	1256.3	1303.8	1314.4
47.5°	1101.2	1132.9	1189.3	1236.9	1254.5
50°	1027.2	1060.7	1120.6	1169.9	1180.5
52.5°	953.2	988.4	1051.9	1104.7	1110.0
55°	875.7	914.4	981.4	1032.5	1043.1
57.5°	805.2	838.7	910.9	963.8	976.1
60°	727.7	764.7	842.2	891.5	907.4
62.5°	653.7	692.4	773.5	822.8	836.9
65°	576.2	620.2	699.5	757.6	771.7
67.5°	509.2	551.5	636.1	692.4	706.5
70°	431.7	479.2	569.1	627.2	641.3
72.5°	364.7	414.1	503.9	560.3	581.4
75°	292.5	348.9	438.7	498.6	512.7
77.5°	222.0	287.2	378.8	424.6	424.6
80°	158.6	227.3	311.9	333.0	336.5
82.5°	104.0	170.9	230.8	229.1	229.1
85°	59.9	111.0	137.4	133.9	133.9
87.5°	22.9	45.8	49.3	49.3	47.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)