

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: P309712

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-5000K**

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: P309712
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: 24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 5000K 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: 4368.0 lumens
Efficiency: N/A
Efficacy: 81.2 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

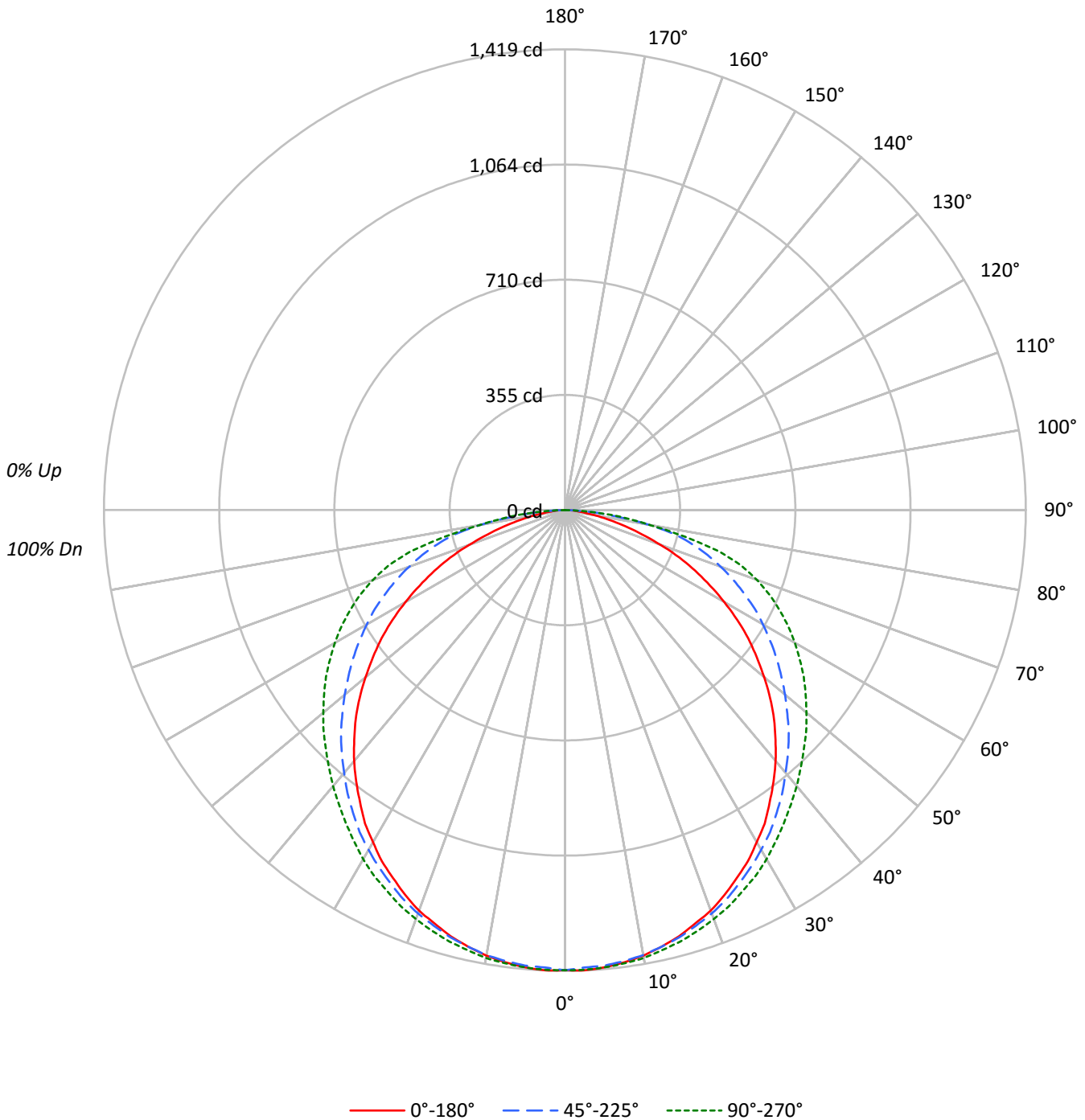
Input Watts (W): 53.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1907	1907	1907
5°	1909	1902	1909
10°	1904	1901	1914
15°	1893	1898	1915
20°	1880	1893	1919
25°	1857	1884	1922
30°	1835	1878	1929
35°	1805	1868	1931
40°	1773	1857	1950
45°	1733	1855	1980
50°	1676	1853	2033
55°	1617	1866	2106
60°	1526	1894	2200
65°	1409	1939	2323
70°	1230	2007	2475
75°	998	2111	2557
80°	737	2069	2069
85°	565	1524	1721



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.3	3.1
10°-20°	385.5	8.8
20°-30°	586.9	13.4
30°-40°	712.6	16.3
40°-50°	752.9	17.2
50°-60°	710.4	16.3
60°-70°	590.7	13.5
70°-80°	388.6	8.9
80°-90°	105.9	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°	1106.7	25.3
0°-40°	1819.3	41.7
0°-60°	3282.7	75.2
0°-90°	4368.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4368.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1417	1417	1417	1417	1417	
5°	1414	1414	1408	1414	1414	134
15°	1359	1360	1362	1375	1375	383
25°	1251	1258	1269	1291	1295	577
35°	1099	1112	1137	1167	1176	688
45°	911	929	975	1022	1040	701
55°	689	719	796	870	898	614
65°	442	494	609	698	730	437
75°	192	280	406	481	492	207
85°	37	80	99	110	112	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1417.2	1417.2	1417.2	1417.2	1417.2
2.5°	1419.0	1417.2	1409.9	1417.2	1417.2
5°	1413.5	1413.5	1408.1	1413.5	1413.5
7.5°	1404.4	1404.4	1400.7	1408.1	1408.1
10°	1393.4	1393.4	1391.6	1400.7	1400.7
12.5°	1377.0	1378.8	1377.0	1387.9	1387.9
15°	1358.7	1360.5	1362.3	1375.1	1375.1
17.5°	1334.9	1338.6	1342.2	1356.9	1358.7
20°	1313.0	1314.8	1322.1	1338.6	1340.4
22.5°	1283.7	1289.2	1298.3	1314.8	1320.3
25°	1250.8	1258.1	1269.1	1291.0	1294.7
27.5°	1219.7	1225.2	1239.8	1263.6	1270.9
30°	1181.3	1190.4	1208.7	1232.5	1241.7
32.5°	1144.7	1153.9	1175.8	1201.4	1208.7
35°	1099.0	1111.8	1137.4	1166.7	1175.8
37.5°	1055.1	1067.9	1099.0	1131.9	1142.9
40°	1009.4	1024.0	1057.0	1095.4	1110.0
42.5°	960.0	980.2	1016.7	1058.8	1075.2
45°	910.7	929.0	974.7	1022.2	1040.5
47.5°	857.6	879.6	929.0	985.6	1007.6
50°	800.9	828.4	885.1	947.2	971.0
52.5°	744.3	775.3	839.3	908.8	934.4
55°	689.4	718.7	795.5	870.4	897.9
57.5°	629.1	665.6	749.7	830.2	857.6
60°	566.9	607.1	704.0	788.1	817.4
62.5°	504.7	550.4	660.1	744.3	775.3
65°	442.5	493.7	608.9	698.5	729.6
67.5°	382.2	438.9	561.4	651.0	682.1
70°	312.7	384.0	510.2	598.0	629.1
72.5°	248.7	331.0	460.8	543.1	570.5
75°	192.0	279.8	406.0	480.9	491.9
77.5°	140.8	228.6	349.3	374.9	376.7
80°	95.1	182.9	267.0	263.3	267.0
82.5°	62.2	137.1	168.2	188.4	190.2
85°	36.6	80.5	98.7	109.7	111.5
87.5°	18.3	27.4	34.7	36.6	40.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)