

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: RSA

Report Number: P226137

Luminaire Tested: **MRZ-1-REC-X-1-L30-97-NFL-UNV-X-STD-SNT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P226137
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14874)
Test Lab: INNOVATION CENTER (G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: RSA
Catalog Number: MRZ-1-REC-X-1-L30-97-NFL-UNV-X-STD-SNT
Description: MRZ INTEGRAL LED DOWNLIGHT
25 DEGREE NARROW FLOOD OPTIC WITH SNOOT, LIGHT LEVEL 1
Light Source: (1) 3000K CCT, 97 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 428.2 lumens
Efficiency: N/A
Efficacy: 79.3 lumens/watt
Spacing Criteria (0/90/45): 0.42 / 0.41 / 0.38
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

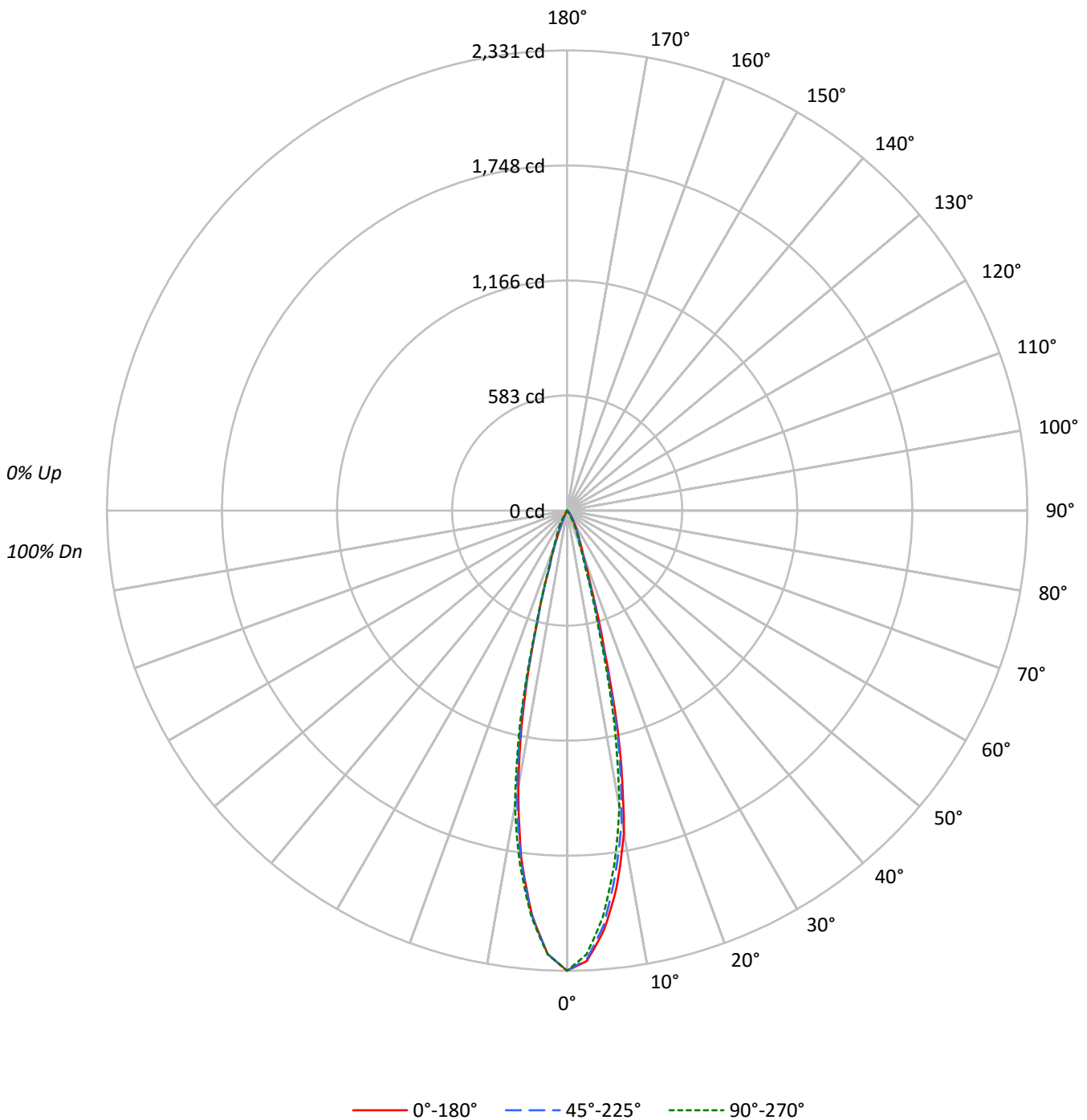
Input Watts (W): 5.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	
1	115	113	111	110	113	111	110	108	107	106	105	104	103	102	100	99	99	97	97	97	97	
2	112	108	105	103	110	107	104	102	104	102	100	101	99	98	98	97	96	94	94	94	94	
3	108	104	101	98	107	103	100	97	100	98	96	98	96	94	96	94	93	92	92	92	92	
4	105	100	97	94	104	99	96	93	97	95	92	96	93	91	94	92	90	89	89	89	89	
5	103	97	93	90	101	96	93	90	95	92	89	93	91	89	92	90	88	87	87	87	87	
6	100	94	90	88	99	94	90	87	92	89	87	91	88	86	90	88	86	85	85	85	85	
7	98	92	88	85	97	91	87	85	90	87	84	89	86	84	88	85	84	83	83	83	83	
8	95	89	85	83	94	89	85	83	88	85	82	87	84	82	86	84	82	81	81	81	81	
9	93	87	83	81	92	86	83	80	86	82	80	85	82	80	84	82	80	79	79	79	79	
10	91	85	81	79	90	84	81	79	84	81	78	83	80	78	83	80	78	77	77	77	77	

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	1149870	1149870	1149870
5°	1057042	1024206	1015935
10°	830142	763410	713210
15°	368377	313417	299575
20°	122545	99811	89940
25°	67939	57160	18781
30°	39253	20566	5925
35°	22285	5963	2229
40°	11786	3349	1353
45°	5861	2163	349
50°	3224	1228	0
55°	2236	946	0
60°	1579	493	0
65°	1284	584	0
70°	721	0	0
75°	953	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.0	42.3
10°-20°	186.9	43.6
20°-30°	42.9	10.0
30°-40°	12.4	2.9
40°-50°	3.5	0.8
50°-60°	1.1	0.2
60°-70°	0.4	0.1
70°-80°	0.2	0.0
80°-90°	0.0	0.0
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°	410.7	95.9
0°-40°	423.1	98.8
0°-60°	427.6	99.9
0°-90°	428.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	428.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2331	2331	2331	2331	2331	
5°	2134	2110	2068	2058	2051	189
15°	721	658	614	580	586	210
25°	125	120	105	39	34	60
35°	37	34	10	4	4	24
45°	8	8	3	1	0	7
55°	3	2	1	0	0	2
65°	1	1	0	0	0	1
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	2330.6	2330.6	2330.6	2330.6	2330.6	2330.6	2330.6	2330.6	2330.6
2.5°	2283.7	2283.1	2273.2	2262.8	2249.2	2250.3	2248.1	2251.3	2249.7
5°	2134.3	2122.8	2110.3	2087.3	2068.0	2059.6	2057.6	2050.8	2051.3
7.5°	1923.8	1899.3	1863.8	1833.5	1817.3	1796.4	1787.5	1768.8	1776.6
10°	1657.0	1625.1	1593.3	1555.7	1523.8	1489.4	1462.8	1445.5	1423.6
12.5°	1230.4	1204.8	1191.7	1142.6	1104.5	1077.8	1063.3	1021.5	1021.9
15°	721.2	689.3	657.5	632.4	613.6	603.7	580.2	574.4	586.5
17.5°	385.4	371.3	350.4	327.4	314.4	304.9	297.2	294.1	289.3
20°	233.4	229.2	217.3	202.1	190.1	181.8	173.9	171.8	171.3
22.5°	168.7	166.6	158.7	147.8	136.3	116.9	93.5	88.7	90.3
25°	124.8	123.3	120.1	111.8	105.0	57.9	38.7	37.0	34.5
27.5°	93.5	92.4	88.7	83.0	70.5	25.6	21.4	19.8	19.8
30°	68.9	68.4	66.3	60.6	36.1	14.6	12.1	11.0	10.4
32.5°	50.6	50.6	48.6	43.4	16.2	9.4	7.3	6.8	6.2
35°	37.0	37.0	34.5	29.7	9.9	6.2	4.2	4.2	3.7
37.5°	26.6	26.1	24.5	18.8	7.3	4.2	3.1	3.1	2.6
40°	18.3	18.3	16.7	11.5	5.2	3.1	2.6	2.1	2.1
42.5°	12.5	12.5	11.5	7.3	4.2	2.6	1.6	1.6	1.6
45°	8.4	8.4	7.9	5.2	3.1	1.6	1.1	1.1	0.5
47.5°	5.7	5.7	5.2	3.7	2.1	1.1	0.5	0.5	0.5
50°	4.2	4.2	3.7	2.6	1.6	1.1	0.5	0.5	0.0
52.5°	3.1	3.1	3.1	2.1	1.1	0.5	0.0	0.0	0.0
55°	2.6	2.6	2.1	1.6	1.1	0.5	0.0	0.0	0.0
57.5°	2.1	2.1	1.6	1.1	0.5	0.5	0.0	0.0	0.0
60°	1.6	1.6	1.6	1.1	0.5	0.0	0.0	0.0	0.0
62.5°	1.1	1.1	1.1	0.5	0.5	0.0	0.0	0.0	0.0
65°	1.1	1.1	1.1	0.5	0.5	0.0	0.0	0.0	0.0
67.5°	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0
70°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
72.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
75°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
77.5°	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)