

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P644645

Luminaire Tested: OMN4DIP-SR4F0-100D75U930-BBMOOB-1DUDD-WW

Issue Date: 9/2/2020



**Test Information**

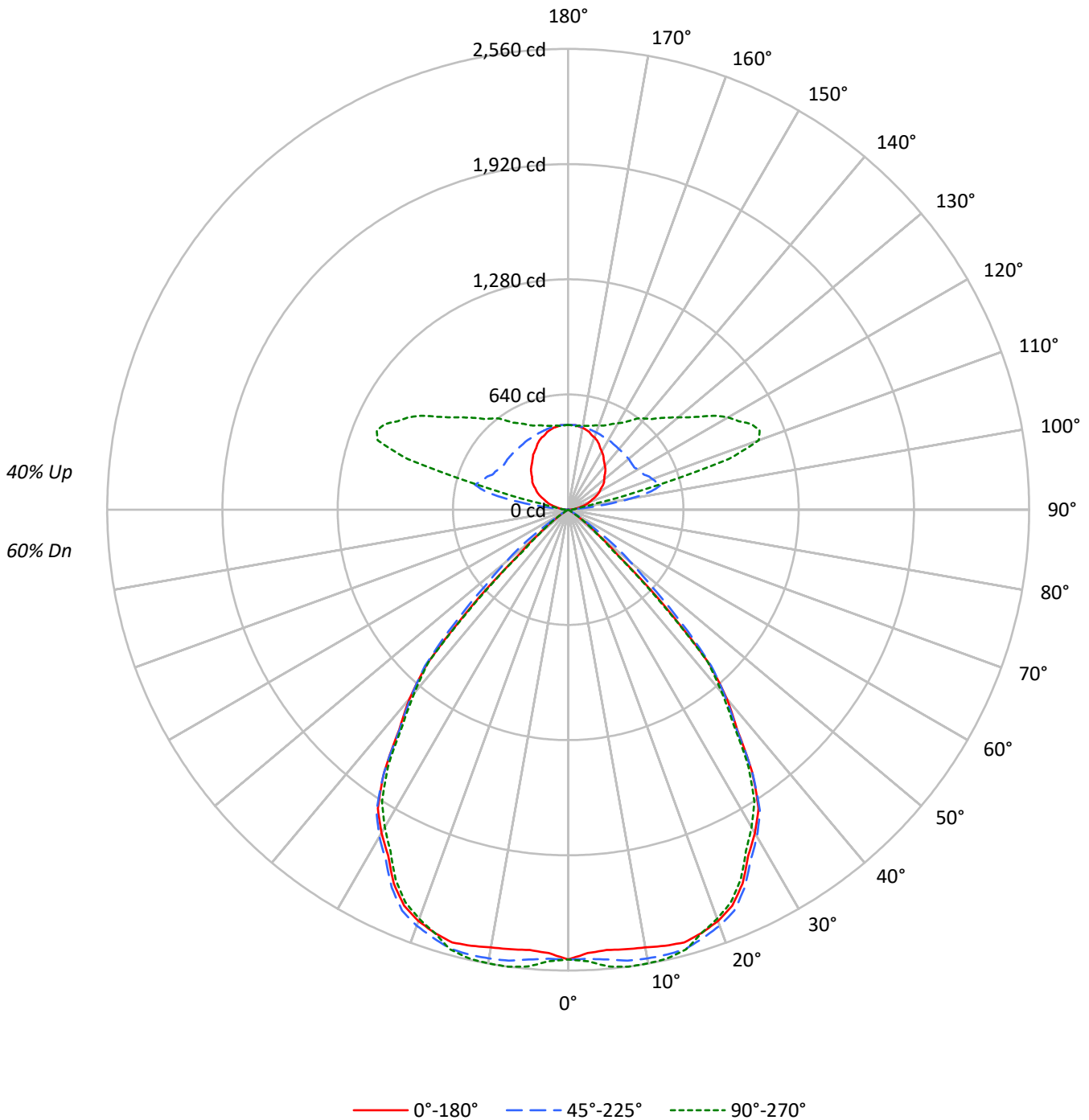
Test Method: LM-79-2019  
Report Number: P644645  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, G2-2206-689-23)  
Test Lab: INNOVATION CENTER  
Issue Date: 9/2/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: OMN4DIP-SR4F0-100D75U930-BBMOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE 4-INCH DIAMETER LINEAR LED LUMINAIRE  
DOWNLIGHT - BLACK BAFFLE WITH MEDIUM OPTIC - 1000 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 750 LUMENS PER FOOT  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6370.7 lumens  
Efficiency: N/A  
Efficacy: 108.2 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.21 / 1.18  
Luminous Opening: Rectangular (W 0.21' x L: 4' x H: 0')  
CIE Type: Semi-Direct  
  
Input Watts (W): 58.9  
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: 24 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	110	110	110	110	102	102	102	102	89	89	89	77	77	77	66	66	66	60				
1	102	99	96	93	96	93	90	88	82	80	78	71	70	69	62	61	60	55				
2	95	89	84	80	89	84	80	76	75	71	69	66	63	61	57	56	54	51				
3	89	81	75	70	83	76	71	67	68	64	61	60	57	55	53	51	49	46				
4	83	73	67	62	77	70	64	59	62	58	54	56	52	49	49	47	45	42				
5	77	67	60	55	72	64	57	53	57	52	49	51	48	45	46	43	41	38				
6	72	61	54	49	67	58	52	47	53	48	44	47	43	41	42	40	37	35				
7	67	56	49	44	63	53	47	43	48	43	40	44	40	37	39	36	34	32				
8	63	52	45	40	59	49	43	39	45	40	36	41	37	34	37	34	31	29				
9	59	48	41	36	55	46	39	35	42	37	33	38	34	31	34	31	29	27				
10	55	44	38	33	52	42	36	32	39	34	30	35	31	28	32	29	27	25				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	32270	32270	32270
5°	31837	32520	33026
10°	32385	33203	33561
15°	33278	33773	33825
20°	33430	33805	33243
25°	32660	33021	32298
30°	30922	31271	30368
35°	28109	28109	27524
40°	23119	22888	22394
45°	13823	16245	13181
50°	4467	9053	4194
55°	1581	3031	1581
60°	101	858	52
65°	61	61	0
70°	76	0	0
75°	0	0	0
80°	0	0	0
85°	296	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 16245 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	240.3	3.8
10°-20°	711.2	11.2
20°-30°	1052.5	16.5
30°-40°	1087.9	17.1
40°-50°	633.0	9.9
50°-60°	107.2	1.7
60°-70°	4.2	0.1
70°-80°	0.6	0.0
80°-90°	1.6	0.0
90°-100°	57.9	0.9
100°-110°	413.0	6.5
110°-120°	560.7	8.8
120°-130°	456.3	7.2
130°-140°	367.0	5.8
140°-150°	289.3	4.5
150°-160°	211.6	3.3
160°-170°	131.4	2.1
170°-180°	44.8	0.7
0°-30°	2004.0	31.5
0°-40°	3091.9	48.5
0°-60°	3832.1	60.2
0°-90°	3838.6	60.3
90°-120°	1031.6	16.2
90°-150°	2144.3	33.7
90°-180°	2532.0	39.7
0°-180°	6370.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2498	2498	2498	2498	2498	
5°	2455	2520	2508	2515	2547	235
15°	2489	2576	2526	2512	2530	700
25°	2292	2368	2317	2247	2266	1047
35°	1783	1811	1783	1738	1746	1092
45°	757	881	889	859	722	585
55°	70	82	135	76	70	77
65°	2	2	2	0	0	2
75°	0	2	0	0	0	1
85°	2	2	0	0	0	1
90°	0	3	6	9	9	1
95°	24	44	24	27	33	27
105°	92	141	537	686	454	97
115°	163	198	462	961	1124	162
125°	234	266	436	762	901	208
135°	290	322	439	628	720	224
145°	344	373	442	547	605	216
155°	403	418	451	496	519	185
165°	448	454	462	474	483	126
175°	471	474	471	468	465	45
180°	471	471	471	471	471	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2498.3	2498.3	2498.3	2498.3	2498.3
2.5°	2465.6	2514.4	2496.8	2498.6	2510.8
5°	2455.4	2520.2	2508.1	2514.7	2547.1
7.5°	2462.8	2528.4	2526.8	2528.7	2560.3
10°	2469.1	2537.7	2531.5	2530.2	2558.8
12.5°	2481.5	2556.3	2531.5	2528.5	2552.5
15°	2488.6	2576.3	2525.6	2512.4	2529.5
17.5°	2464.8	2562.4	2493.6	2458.3	2465.2
20°	2432.0	2531.2	2459.3	2406.9	2418.4
22.5°	2380.5	2475.1	2410.9	2346.1	2360.6
25°	2291.6	2367.9	2316.9	2247.2	2266.2
27.5°	2165.2	2225.5	2193.3	2125.7	2137.5
30°	2073.2	2122.7	2096.6	2030.4	2036.1
32.5°	1967.1	2009.0	1981.1	1924.1	1923.8
35°	1782.6	1811.2	1782.6	1737.9	1745.5
37.5°	1541.1	1562.9	1533.7	1506.9	1510.7
40°	1371.1	1388.2	1357.4	1332.0	1328.1
42.5°	1158.9	1206.5	1176.4	1141.8	1147.2
45°	756.7	880.7	889.3	858.9	721.6
47.5°	381.5	516.9	619.0	469.7	336.6
50°	222.3	304.3	450.5	248.7	208.7
52.5°	145.9	180.6	314.8	157.2	138.5
55°	70.2	81.7	134.6	75.9	70.2
57.5°	24.2	37.2	59.7	38.0	26.9
60°	3.9	15.3	33.2	11.5	2.0
62.5°	2.3	4.6	20.7	2.3	0.4
65°	2.0	2.0	2.0	0.0	0.0
67.5°	2.0	2.0	0.0	0.0	0.0
70°	2.0	2.0	0.0	0.0	0.0
72.5°	2.0	2.0	0.0	0.0	0.0
75°	0.0	1.9	0.0	0.0	0.0
77.5°	0.0	1.9	0.0	0.0	0.0
80°	0.0	1.9	0.0	0.0	0.0
82.5°	0.0	1.9	0.0	0.0	0.0
85°	2.0	2.0	0.0	0.0	0.0
87.5°	1.6	2.1	1.2	1.8	1.8
90°	0.0	2.9	5.9	8.9	8.9
92.5°	7.1	10.0	13.0	18.4	20.8
95°	23.7	44.0	23.7	26.8	32.6
97.5°	42.1	84.4	174.3	51.4	44.5
100°	56.3	105.6	349.8	103.0	68.2
102.5°	70.6	122.2	473.2	271.7	148.8
105°	91.9	141.2	536.6	685.5	453.6
107.5°	113.2	150.4	512.3	997.6	934.5
110°	127.5	162.3	498.1	1048.3	1126.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	141.7	176.5	483.8	1018.7	1150.3
115°	163.1	197.8	462.5	961.3	1123.6
117.5°	185.0	219.2	457.1	899.1	1066.1
120°	201.6	233.5	447.7	851.8	1025.8
122.5°	213.5	247.7	435.8	811.2	971.2
125°	234.2	266.1	435.8	762.1	901.2
127.5°	251.4	283.9	436.4	705.1	842.5
130°	260.9	295.7	438.8	667.0	797.5
132.5°	272.7	307.5	438.8	649.9	757.2
135°	290.5	322.4	438.8	627.6	720.4
137.5°	305.4	339.6	438.8	603.0	682.5
140°	317.2	349.1	438.8	588.6	661.1
142.5°	329.1	358.6	441.1	571.9	639.8
145°	343.9	372.9	441.7	546.8	604.8
147.5°	361.7	387.2	445.3	528.7	573.4
150°	373.5	396.7	447.7	516.7	554.4
152.5°	385.4	406.3	447.7	507.1	537.8
155°	403.2	417.7	450.6	495.6	518.8
157.5°	417.4	431.3	454.2	488.4	505.2
160°	426.9	438.5	456.6	483.6	498.1
162.5°	434.0	445.6	458.9	481.1	490.9
165°	447.7	453.5	462.5	474.5	483.2
167.5°	455.4	460.6	465.4	471.5	476.7
170°	462.5	465.4	465.4	471.4	474.3
172.5°	464.9	470.1	467.8	469.1	472.0
175°	471.4	474.3	471.4	468.3	465.4
177.5°	471.4	473.7	471.4	471.3	469.0
180°	471.4	471.4	471.4	471.4	471.4

(END OF REPORT)