

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: P644927

Luminaire Tested: OMN4DIP-SR4F0-50D150U940-BBMOOB-1DUDD-WW

Issue Date: 9/2/2020



**Test Information**

Test Method: LM-79-2019  
Report Number: P644927  
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-SR4F0-50D150U940-BBMOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE 4-INCH DIAMETER LINEAR LED LUMINAIRE  
DOWNLIGHT - BLACK BAFFLE WITH MEDIUM OPTIC - 500 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 1500 LUMENS PER FOOT  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

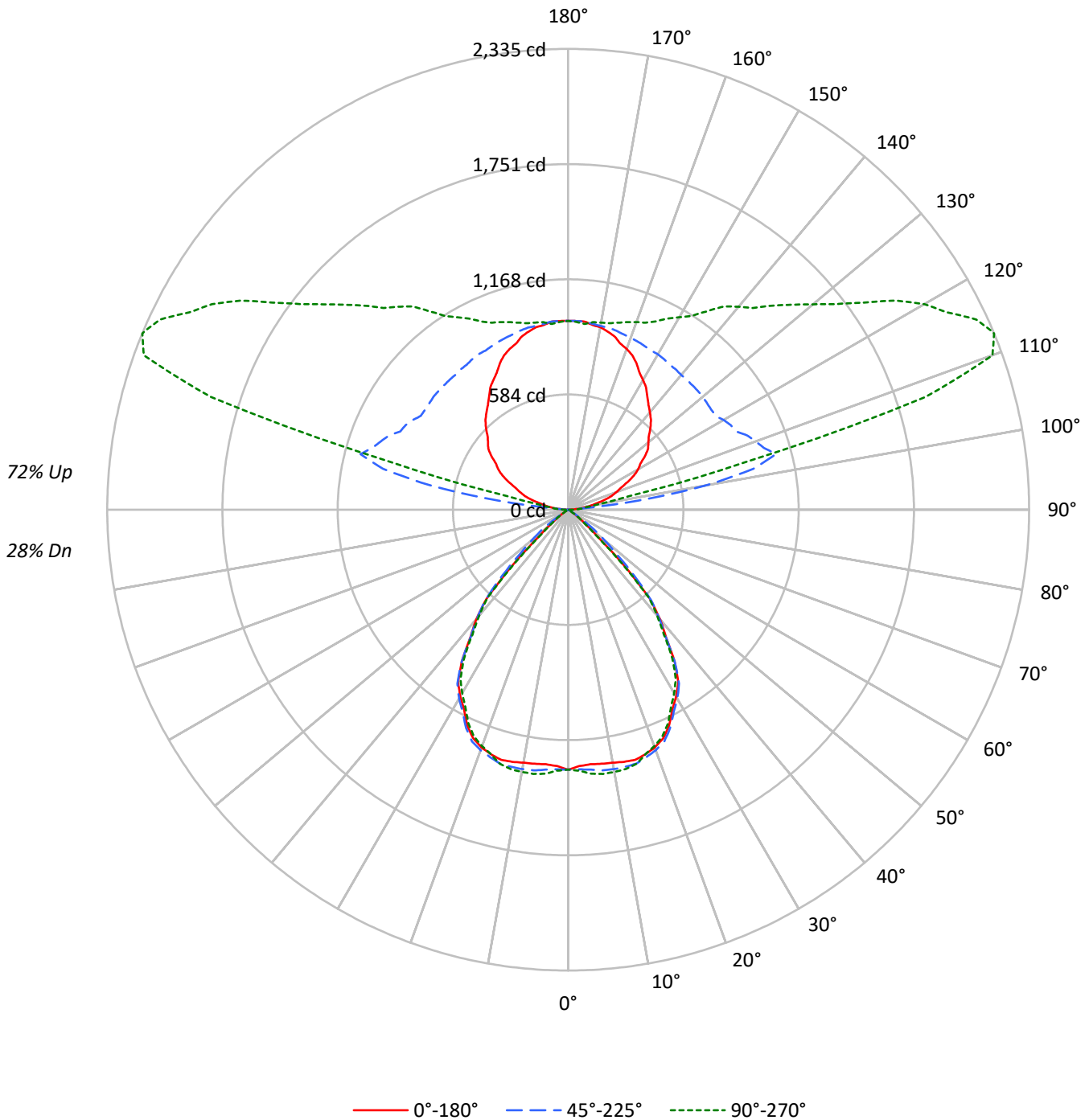
Lumens per Lamp: N/A  
Luminaire Lumens: 7165.6 lumens  
Efficiency: N/A  
Efficacy: 107.3 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.21 / 1.18  
Luminous Opening: Rectangular (W 0.21' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	0
RCR																				
0	102	102	102	102	91	91	91	91	71	71	71		53	53	53		36	36	36	28
1	94	90	87	84	84	81	78	76	64	62	61		48	47	46		34	33	33	26
2	87	80	75	70	77	72	68	64	57	54	52		44	42	40		31	30	29	24
3	80	71	65	60	71	65	59	55	52	48	45		40	37	36		29	27	26	22
4	73	64	57	52	66	58	52	48	47	43	39		36	34	31		26	25	24	20
5	68	57	50	45	61	52	46	42	42	38	35		33	30	28		24	23	21	18
6	63	52	45	40	56	47	41	37	38	34	31		30	27	25		22	21	19	16
7	58	47	40	35	52	43	37	32	35	31	27		28	25	23		21	19	18	15
8	54	43	36	31	49	39	33	29	32	28	25		26	23	20		19	18	16	14
9	50	39	32	28	45	36	30	26	30	25	22		24	21	19		18	16	15	13
10	47	36	29	25	43	33	27	23	27	23	20		22	19	17		17	15	14	12

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

	0°	45°	90°
0°	17014	17014	17014
5°	16786	17145	17412
10°	17074	17506	17695
15°	17545	17807	17833
20°	17625	17823	17526
25°	17219	17410	17028
30°	16302	16487	16011
35°	14819	14819	14512
40°	12189	12068	11806
45°	7289	8565	6949
50°	2355	4773	2210
55°	833	1597	833
60°	54	452	26
65°	31	31	0
70°	38	0	0
75°	0	0	0
80°	0	0	0
85°	148	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 8565 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.7	1.8
10°-20°	375.0	5.2
20°-30°	554.9	7.7
30°-40°	573.6	8.0
40°-50°	333.7	4.7
50°-60°	56.5	0.8
60°-70°	2.2	0.0
70°-80°	0.3	0.0
80°-90°	2.4	0.0
90°-100°	117.7	1.6
100°-110°	838.3	11.7
110°-120°	1138.2	15.9
120°-130°	926.4	12.9
130°-140°	745.1	10.4
140°-150°	587.4	8.2
150°-160°	429.5	6.0
160°-170°	266.8	3.7
170°-180°	91.0	1.3
0°-30°	1056.6	14.7
0°-40°	1630.2	22.7
0°-60°	2020.4	28.2
0°-90°	2025.4	28.3
90°-120°	2094.2	29.2
90°-150°	4353.0	60.7
90°-180°	5140.0	71.7
0°-180°	7165.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1317	1317	1317	1317	1317	
5°	1295	1329	1322	1326	1343	124
15°	1312	1358	1332	1325	1334	369
25°	1208	1248	1222	1185	1195	552
35°	940	955	940	916	920	576
45°	399	464	469	453	380	309
55°	37	43	71	40	37	41
65°	1	1	1	0	0	1
75°	0	1	0	0	0	0
85°	1	1	0	0	0	0
90°	0	6	12	18	18	2
95°	48	89	48	54	66	54
105°	187	287	1089	1392	921	197
115°	331	402	939	1951	2281	329
125°	475	540	885	1547	1830	422
135°	590	654	891	1274	1462	454
145°	698	757	897	1110	1228	438
155°	818	848	915	1006	1053	376
165°	909	920	939	963	981	255
175°	957	963	957	951	945	90
180°	957	957	957	957	957	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1317.2	1317.2	1317.2	1317.2	1317.2
2.5°	1299.9	1325.6	1316.4	1317.3	1323.8
5°	1294.6	1328.7	1322.3	1325.8	1342.9
7.5°	1298.5	1333.0	1332.2	1333.2	1349.9
10°	1301.8	1337.9	1334.7	1334.0	1349.1
12.5°	1308.3	1347.7	1334.7	1333.1	1345.8
15°	1312.0	1358.3	1331.6	1324.6	1333.6
17.5°	1299.5	1351.0	1314.7	1296.1	1299.7
20°	1282.2	1334.5	1296.6	1269.0	1275.0
22.5°	1255.1	1304.9	1271.1	1236.9	1244.6
25°	1208.2	1248.4	1221.6	1184.8	1194.8
27.5°	1141.6	1173.3	1156.4	1120.7	1127.0
30°	1093.0	1119.2	1105.4	1070.5	1073.5
32.5°	1037.1	1059.2	1044.5	1014.5	1014.3
35°	939.8	954.9	939.8	916.3	920.3
37.5°	812.5	824.0	808.6	794.5	796.5
40°	722.9	731.9	715.7	702.2	700.2
42.5°	611.0	636.1	620.2	602.0	604.8
45°	399.0	464.3	468.9	452.8	380.4
47.5°	201.1	272.5	326.4	247.7	177.5
50°	117.2	160.5	237.5	131.1	110.0
52.5°	76.9	95.2	166.0	82.9	73.0
55°	37.0	43.0	70.9	40.0	37.0
57.5°	12.8	19.6	31.5	20.0	14.2
60°	2.1	8.1	17.5	6.1	1.0
62.5°	1.2	2.4	10.9	1.2	0.2
65°	1.0	1.0	1.0	0.0	0.0
67.5°	1.0	1.0	0.0	0.0	0.0
70°	1.0	1.0	0.0	0.0	0.0
72.5°	1.0	1.0	0.0	0.0	0.0
75°	0.0	1.0	0.0	0.0	0.0
77.5°	0.0	1.0	0.0	0.0	0.0
80°	0.0	1.0	0.0	0.0	0.0
82.5°	0.0	1.0	0.0	0.0	0.0
85°	1.0	1.0	0.0	0.0	0.0
87.5°	0.8	2.0	2.4	3.6	3.6
90°	0.0	5.9	12.0	18.1	18.1
92.5°	14.4	20.3	26.5	37.4	42.1
95°	48.1	89.3	48.1	54.4	66.2
97.5°	85.5	171.4	353.9	104.4	90.3
100°	114.3	214.4	710.2	209.0	138.4
102.5°	143.2	248.0	960.5	551.6	302.1
105°	186.6	286.6	1089.3	1391.5	920.8
107.5°	229.9	305.2	1039.9	2025.2	1896.9
110°	258.8	329.4	1011.1	2128.0	2286.9

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	287.7	358.3	982.2	2067.9	2335.1
115°	331.0	401.6	938.8	1951.4	2280.9
117.5°	375.5	445.0	928.0	1825.2	2164.2
120°	409.2	474.0	908.8	1729.2	2082.3
122.5°	433.3	502.7	884.7	1646.7	1971.6
125°	475.4	540.2	884.7	1547.1	1829.5
127.5°	510.3	576.3	885.9	1431.5	1710.4
130°	529.6	600.2	890.7	1354.1	1618.9
132.5°	553.7	624.3	890.7	1319.3	1537.1
135°	589.8	654.5	890.7	1274.1	1462.4
137.5°	619.9	689.3	890.7	1224.2	1385.4
140°	643.9	708.7	890.7	1195.0	1342.1
142.5°	668.0	728.0	895.5	1161.0	1298.7
145°	698.1	757.0	896.7	1110.0	1227.7
147.5°	734.2	786.0	903.9	1073.3	1163.9
150°	758.3	805.4	908.8	1048.9	1125.4
152.5°	782.4	824.7	908.8	1029.3	1091.7
155°	818.5	847.9	914.8	1006.1	1053.2
157.5°	847.4	875.6	922.0	991.4	1025.5
160°	866.6	890.2	926.8	981.6	1011.1
162.5°	881.1	904.6	931.6	976.6	996.6
165°	908.8	920.5	938.8	963.3	981.0
167.5°	924.4	935.0	944.9	957.1	967.7
170°	938.8	944.7	944.9	957.0	962.9
172.5°	943.7	954.2	949.7	952.2	958.1
175°	956.9	962.8	956.9	950.7	944.9
177.5°	956.9	961.6	956.9	956.8	952.1
180°	956.9	956.9	956.9	956.9	956.9

(END OF REPORT)