

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: P644198

Luminaire Tested: CRQ4DIP-SR4F0-100D150U835-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644198
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, G2-2206-689-14)
Test Lab: INNOVATION CENTER
Issue Date: 2/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: CRQ4DIP-SR4F0-100D150U835-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 1500 LUMENS PER FOOT
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

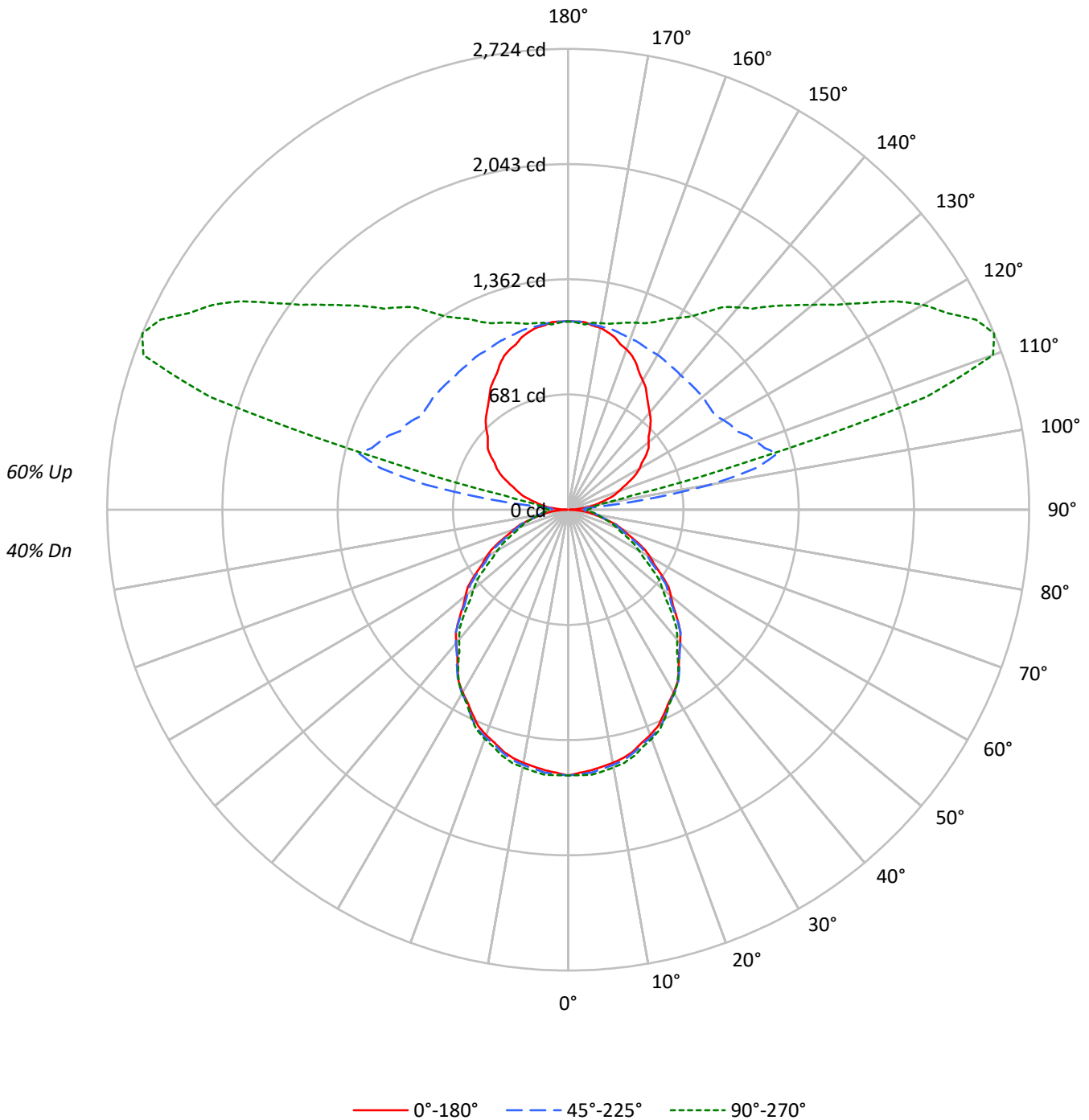
Lumens per Lamp: N/A
Luminaire Lumens: 10031.3 lumens
Efficiency: N/A
Efficacy: 127.8 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: Semi-Indirect

Input Watts (W): 78.5
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										
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	50	30	10	0														
RCR																																						
0	105	105	105	105	95	95	95	95	78	78	78	61	61	61	47	47	47	40																				
1	95	91	87	84	87	83	80	77	68	65	63	54	52	51	41	40	39	33																				
2	87	79	73	68	79	72	67	63	59	56	52	47	45	42	36	34	33	28																				
3	79	70	63	57	72	64	58	53	52	48	44	42	39	36	32	30	28	24																				
4	72	62	54	48	66	57	50	45	47	42	38	37	34	31	29	26	24	20																				
5	66	55	47	41	60	50	43	38	42	36	32	33	30	27	26	23	21	18																				
6	61	49	41	36	56	45	38	33	38	32	28	30	26	23	23	21	19	16																				
7	57	45	37	31	51	41	34	29	34	29	25	28	24	21	21	19	17	14																				
8	52	40	33	28	48	37	30	26	31	26	22	25	21	18	20	17	15	12																				
9	49	37	29	25	44	34	27	23	28	23	20	23	19	17	18	15	13	11																				
10	46	34	27	22	41	31	25	21	26	21	18	21	18	15	17	14	12	10																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	25362	25362	25362
5°	24882	22393	21698
10°	24555	19922	18743
15°	24195	17842	16394
20°	23642	16006	14340
25°	22904	14292	12496
30°	22180	12629	10846
35°	21196	11107	9309
40°	20279	9724	7892
45°	19218	8357	6586
50°	18097	7078	5402
55°	16910	5956	4356
60°	15777	4882	3482
65°	14381	3893	2756
70°	13037	3050	2177
75°	11401	2343	1717
80°	9528	1742	1337
85°	6945	1267	1016

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 19218 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.3	1.5
10°-20°	420.7	4.2
20°-30°	621.1	6.2
30°-40°	714.0	7.1
40°-50°	692.7	6.9
50°-60°	579.8	5.8
60°-70°	417.7	4.2
70°-80°	255.3	2.5
80°-90°	126.5	1.3
90°-100°	185.9	1.9
100°-110°	993.0	9.9
110°-120°	1330.2	13.3
120°-130°	1080.1	10.8
130°-140°	867.0	8.6
140°-150°	683.3	6.8
150°-160°	499.6	5.0
160°-170°	310.3	3.1
170°-180°	105.8	1.1
0°-30°	1190.0	11.9
0°-40°	1904.1	19.0
0°-60°	3176.6	31.7
0°-90°	3976.1	39.6
90°-120°	2509.1	25.0
90°-150°	5139.5	51.2
90°-180°	6055.0	60.4
0°-180°	10031.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1571	1571	1571	1571	1571	
5°	1546	1575	1560	1562	1573	147
15°	1480	1502	1489	1496	1506	416
25°	1336	1357	1353	1347	1356	615
35°	1138	1156	1145	1134	1134	713
45°	912	920	905	878	865	703
55°	672	681	657	616	597	603
65°	444	446	424	392	382	441
75°	240	240	244	237	233	256
85°	73	88	122	131	131	77
90°	7	50	94	114	116	11
95°	78	124	103	126	141	81
105°	239	343	1278	1639	1096	252
115°	401	474	1096	2274	2658	397
125°	562	633	1031	1800	2128	499
135°	686	761	1036	1482	1701	528
145°	812	880	1043	1291	1428	510
155°	952	986	1064	1170	1225	437
165°	1057	1071	1092	1121	1141	297
175°	1113	1120	1113	1106	1099	105
180°	1113	1113	1113	1113	1113	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1570.8	1570.8	1570.8	1570.8	1570.8
2.5°	1556.6	1579.1	1565.4	1569.0	1570.8
5°	1546.4	1574.6	1559.7	1562.1	1573.0
7.5°	1532.2	1558.2	1545.0	1548.0	1560.6
10°	1519.7	1545.8	1530.8	1535.5	1546.4
12.5°	1503.8	1528.1	1516.6	1521.3	1532.2
15°	1479.8	1501.5	1488.7	1495.6	1506.4
17.5°	1444.3	1467.7	1454.1	1457.9	1468.7
20°	1417.7	1439.4	1431.0	1431.2	1442.1
22.5°	1385.7	1409.2	1402.6	1397.6	1410.1
25°	1335.6	1357.3	1353.3	1346.9	1355.6
27.5°	1285.9	1302.0	1294.3	1287.8	1294.3
30°	1246.9	1266.4	1253.5	1247.0	1253.5
32.5°	1204.3	1223.8	1210.9	1202.5	1205.6
35°	1138.1	1155.5	1144.8	1133.7	1133.7
37.5°	1075.6	1086.9	1079.6	1060.8	1056.1
40°	1029.4	1042.4	1031.6	1009.3	1002.8
42.5°	981.5	994.5	982.0	957.8	947.8
45°	911.8	920.5	905.2	878.3	865.3
47.5°	840.0	849.1	828.0	798.3	782.7
50°	792.0	802.9	776.5	745.1	727.7
52.5°	745.9	753.3	728.6	691.8	676.2
55°	672.2	680.9	656.7	616.3	596.8
57.5°	603.5	611.7	583.0	544.5	529.4
60°	559.1	565.6	536.9	496.6	481.4
62.5°	509.4	515.9	489.0	454.0	438.8
65°	443.7	445.9	423.8	392.4	381.6
67.5°	382.0	382.0	363.4	340.1	331.5
70°	339.4	339.4	326.1	308.2	299.5
72.5°	300.4	298.7	290.6	278.1	271.1
75°	239.6	239.6	244.0	237.3	233.0
77.5°	186.4	182.9	201.9	201.0	198.8
80°	150.9	150.9	175.3	179.7	177.5
82.5°	118.9	122.4	154.0	160.1	158.0
85°	73.2	88.4	122.0	130.9	130.9
87.5°	33.3	61.1	98.6	111.6	112.0
90°	6.7	50.4	93.9	114.2	116.4
92.5°	30.6	56.9	96.5	122.6	132.0
95°	78.2	123.9	102.6	125.5	141.3
97.5°	126.0	212.5	445.4	168.1	154.3
100°	159.6	260.8	852.7	281.0	203.2
102.5°	191.5	298.1	1136.8	672.3	384.7
105°	239.2	342.6	1278.2	1638.8	1095.5
107.5°	286.9	362.0	1215.9	2368.3	2221.2
110°	318.8	390.1	1180.5	2484.3	2671.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	352.4	423.7	1146.9	2410.9	2723.8
115°	400.6	474.0	1096.5	2274.4	2657.7
117.5°	449.7	524.4	1083.5	2124.9	2519.2
120°	487.1	558.1	1059.3	2011.5	2422.2
122.5°	515.1	589.8	1031.3	1915.6	2293.4
125°	561.9	632.9	1031.3	1799.6	2128.2
127.5°	599.9	674.8	1032.7	1665.1	1989.6
130°	620.5	702.6	1038.3	1575.1	1883.2
132.5°	644.9	727.1	1036.5	1534.7	1788.0
135°	686.1	761.4	1036.1	1482.1	1701.2
137.5°	721.1	801.8	1036.1	1424.0	1611.5
140°	749.1	824.4	1036.1	1390.0	1561.1
142.5°	777.1	846.9	1041.7	1350.6	1510.7
145°	812.1	880.5	1043.1	1291.2	1428.1
147.5°	854.1	914.3	1051.5	1248.5	1353.9
150°	882.1	936.8	1057.1	1220.1	1309.1
152.5°	910.1	959.4	1057.1	1197.4	1269.9
155°	952.1	986.3	1064.1	1170.3	1225.1
157.5°	985.7	1018.5	1072.5	1153.2	1192.9
160°	1008.1	1035.5	1078.1	1141.9	1176.1
162.5°	1024.9	1052.3	1083.7	1136.0	1159.3
165°	1057.1	1070.8	1092.1	1120.6	1141.1
167.5°	1075.3	1087.6	1099.1	1113.4	1125.7
170°	1092.1	1098.9	1099.1	1113.3	1120.1
172.5°	1097.7	1110.0	1104.7	1107.7	1114.5
175°	1113.1	1119.9	1113.1	1105.9	1099.1
177.5°	1113.1	1118.6	1113.1	1113.0	1107.5
180°	1113.1	1113.1	1113.1	1113.1	1113.1

(END OF REPORT)