

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: P644174

Luminaire Tested: CRQ4DIP-SR4F0-100D100U835-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644174
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-SR4F0-100D100U835-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 1000 LUMENS PER FOOT
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

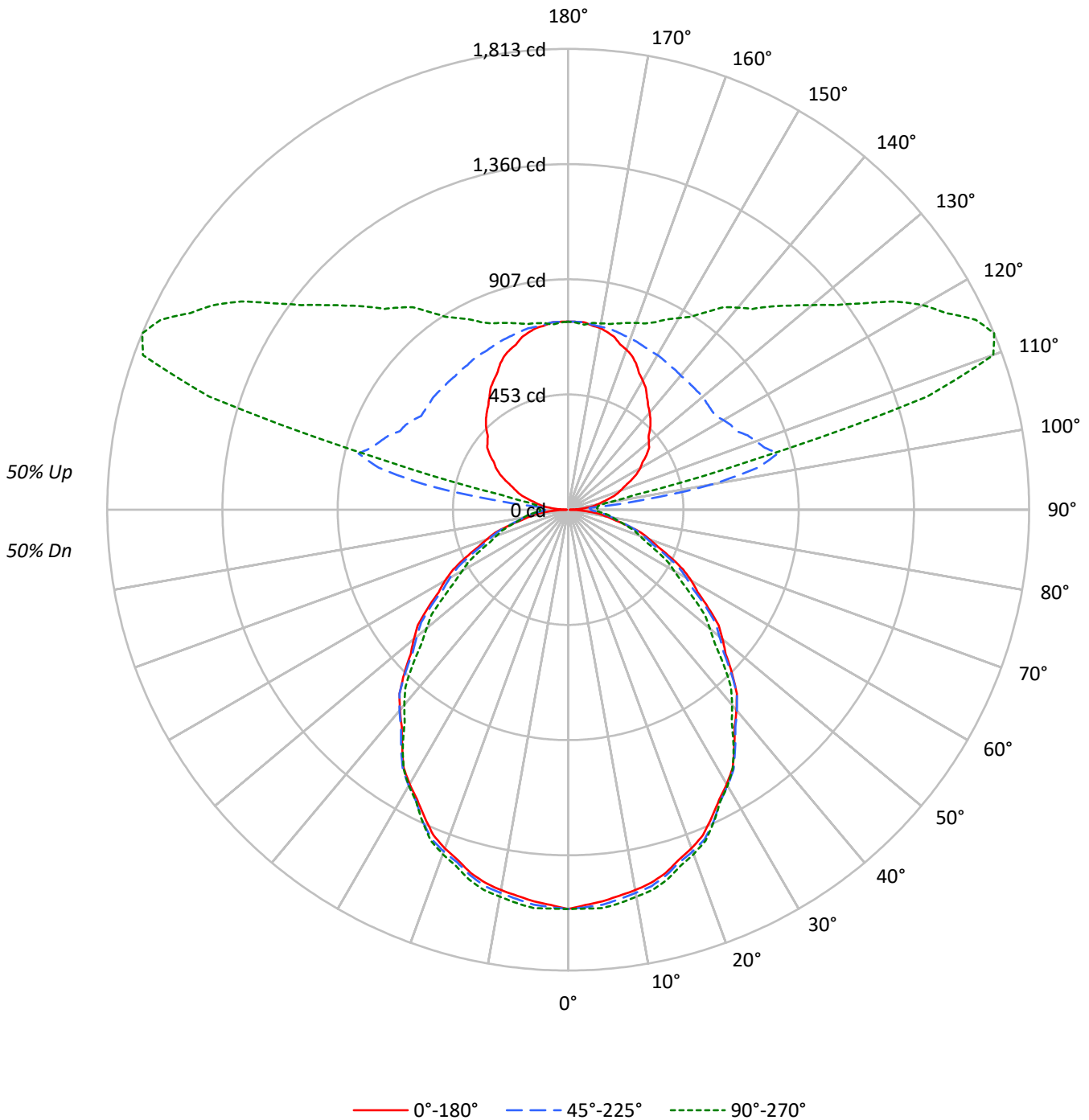
Lumens per Lamp: N/A
Luminaire Lumens: 8026.3 lumens
Efficiency: N/A
Efficacy: 136.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: General Diffuse

Input Watts (W): 58.9
Input Voltage (V): 120
Input Current (A_{in}): 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

TEST NUMBER: P644174

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U835-FLLOOB-1DUDD-WW

Luminous Intensity Polar Plot





TEST NUMBER: P644174

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U835-FLLOOB-1DUDD-WW

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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50				
1	97	93	89	86	90	86	83	79	73	70	68	60	59	57	49	48	47	41				
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	39	35				
3	81	72	64	58	74	66	60	55	56	51	47	47	43	40	38	36	34	29				
4	74	63	56	49	68	59	52	46	50	45	40	42	38	35	34	31	29	25				
5	68	57	48	42	63	52	45	40	45	39	35	38	33	30	31	28	25	22				
6	63	51	43	37	58	47	40	35	40	35	31	34	30	26	28	25	22	19				
7	58	46	38	32	53	43	36	31	37	31	27	31	27	23	26	22	20	17				
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	24	20	18	16				
9	50	38	31	26	46	36	29	24	31	25	21	26	22	19	22	19	16	14				
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	15	13				

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



TEST NUMBER: P644174

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U835-FLLOOB-1DUDD-WW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.3	1.8
10°-20°	420.7	5.2
20°-30°	621.1	7.7
30°-40°	714.0	8.9
40°-50°	692.7	8.6
50°-60°	579.8	7.2
60°-70°	417.7	5.2
70°-80°	255.3	3.2
80°-90°	125.7	1.6
90°-100°	140.1	1.7
100°-110°	666.1	8.3
110°-120°	886.4	11.0
120°-130°	718.9	9.0
130°-140°	576.5	7.2
140°-150°	454.2	5.7
150°-160°	332.1	4.1
160°-170°	206.3	2.6
170°-180°	70.3	0.9
0°-30°	1190.0	14.8
0°-40°	1904.1	23.7
0°-60°	3176.6	39.6
0°-90°	3975.3	49.5
90°-120°	1692.5	21.1
90°-150°	3442.2	42.9
90°-180°	4051.0	50.5
0°-180°	8026.3	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	48	89	107	109	10
95°	59	89	84	104	116	60
105°	166	231	854	1096	736	176
115°	272	317	730	1514	1768	269
125°	376	422	686	1196	1415	334
135°	456	506	689	985	1131	352
145°	540	585	693	858	949	339
155°	633	656	707	778	814	291
165°	703	712	726	745	759	197
175°	740	744	740	735	731	70
180°	740	740	740	740	740	

TEST NUMBER: P644174

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U835-FLLOOB-1DUDD-WW

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	60.7	97.7	110.2	110.6
90°	6.7	48.1	89.2	107.2	109.4
92.5°	24.9	49.0	86.1	108.0	115.6
95°	59.4	89.1	83.8	104.3	115.5
97.5°	92.7	145.7	307.4	127.4	119.1
100°	115.0	177.2	575.8	199.5	149.2
102.5°	135.6	201.4	762.3	457.3	266.9
105°	166.5	230.8	853.5	1096.2	736.5
107.5°	197.3	243.0	810.4	1578.6	1481.6
110°	217.9	261.6	786.3	1654.6	1779.6



TEST NUMBER: P644174

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U835-FLLOOB-1DUDD-WW

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	240.2	284.0	764.0	1604.5	1813.3
115°	271.5	317.4	730.5	1513.5	1768.3
117.5°	303.3	350.9	721.6	1413.2	1675.4
120°	327.6	373.3	705.0	1337.3	1610.3
122.5°	346.2	393.8	686.4	1273.5	1524.7
125°	376.5	422.3	686.4	1196.4	1414.8
127.5°	400.9	450.1	687.3	1107.0	1322.7
130°	414.0	468.6	691.0	1047.2	1251.9
132.5°	429.1	483.7	689.2	1020.3	1188.6
135°	456.1	506.2	688.8	985.3	1130.9
137.5°	479.4	533.1	688.8	946.7	1071.4
140°	498.0	548.0	688.8	924.1	1037.8
142.5°	516.6	563.0	692.5	897.9	1004.3
145°	539.9	585.4	693.4	858.4	949.4
147.5°	567.8	607.8	699.0	830.0	900.1
150°	586.4	622.8	702.8	811.1	870.3
152.5°	605.0	637.8	702.8	796.0	844.2
155°	632.9	655.7	707.4	778.0	814.5
157.5°	655.3	677.1	713.0	766.7	793.0
160°	670.2	688.4	716.7	759.1	781.9
162.5°	681.3	699.6	720.4	755.2	770.7
165°	702.8	711.9	726.0	745.0	758.6
167.5°	714.9	723.0	730.7	740.2	748.4
170°	726.0	730.6	730.7	740.1	744.6
172.5°	729.8	737.9	734.4	736.4	740.9
175°	740.0	744.5	740.0	735.2	730.7
177.5°	740.0	743.6	740.0	739.9	736.3
180°	740.0	740.0	740.0	740.0	740.0

(END OF REPORT)