

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: P644172

Luminaire Tested: CRQ4DIP-SR4F0-100D100U830-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644172
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-SR4F0-100D100U830-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: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

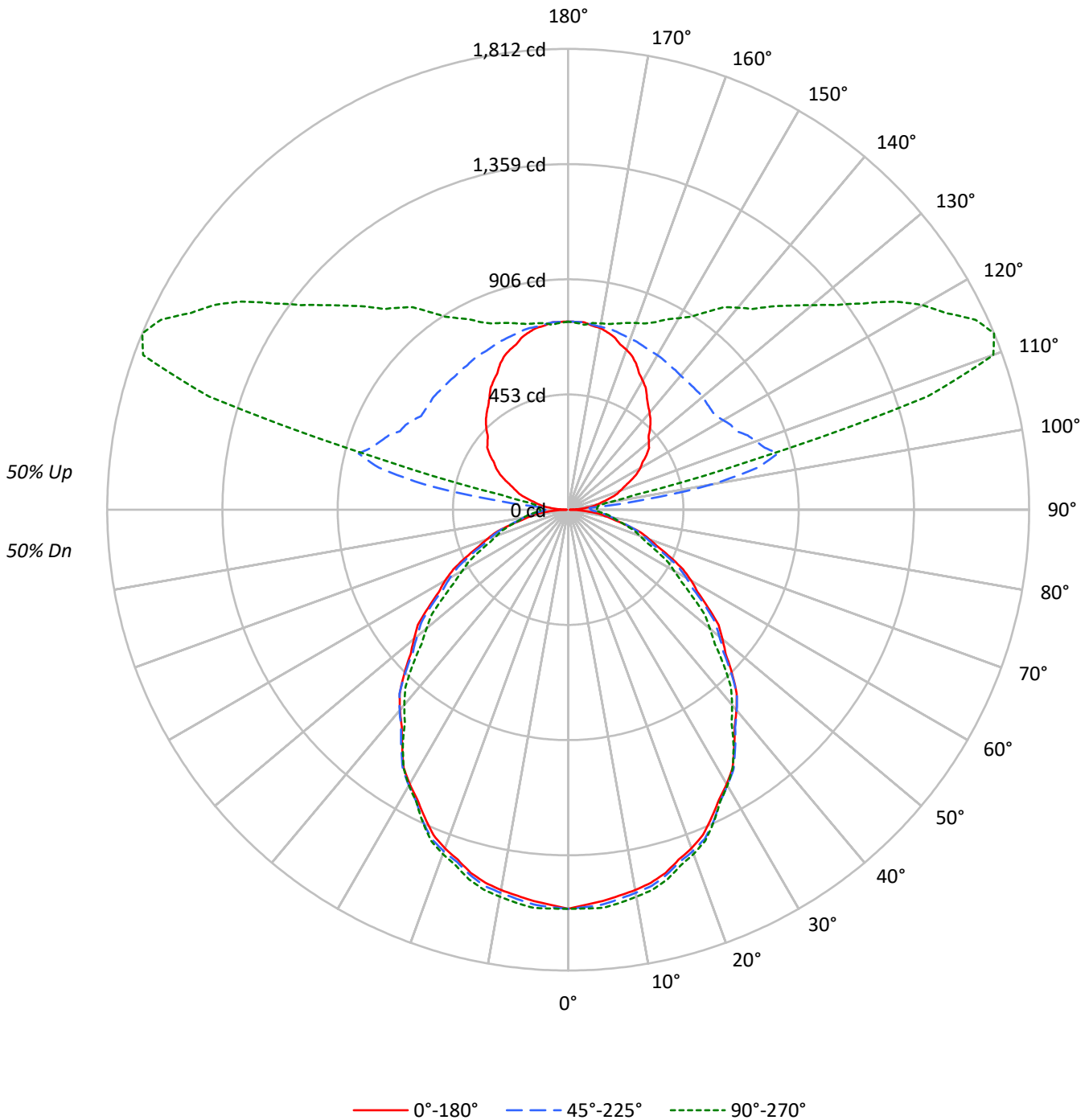
Lumens per Lamp: N/A
Luminaire Lumens: 8019.0 lumens
Efficiency: N/A
Efficacy: 136.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: General Diffuse

Input Watts (W): 58.9
Input Voltage (V): 120
Input Current (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	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°	25339	25339	25339
5°	24859	22373	21678
10°	24534	19906	18726
15°	24174	17825	16380
20°	23620	15991	14327
25°	22883	14279	12484
30°	22158	12618	10836
35°	21177	11098	9301
40°	20261	9715	7885
45°	19201	8350	6580
50°	18081	7072	5397
55°	16894	5950	4353
60°	15763	4877	3479
65°	14368	3889	2754
70°	13026	3047	2175
75°	11392	2341	1715
80°	9515	1740	1336
85°	6936	1266	1016

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 19201 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.1	1.8
10°-20°	420.3	5.2
20°-30°	620.5	7.7
30°-40°	713.4	8.9
40°-50°	692.0	8.6
50°-60°	579.3	7.2
60°-70°	417.4	5.2
70°-80°	255.0	3.2
80°-90°	125.6	1.6
90°-100°	139.9	1.7
100°-110°	665.5	8.3
110°-120°	885.6	11.0
120°-130°	718.3	9.0
130°-140°	576.0	7.2
140°-150°	453.8	5.7
150°-160°	331.8	4.1
160°-170°	206.1	2.6
170°-180°	70.3	0.9
0°-30°	1189.0	14.8
0°-40°	1902.4	23.7
0°-60°	3173.7	39.6
0°-90°	3971.7	49.5
90°-120°	1691.0	21.1
90°-150°	3439.1	42.9
90°-180°	4047.0	50.5
0°-180°	8019.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1569	1569	1569	1569	1569	
5°	1545	1573	1558	1561	1572	147
15°	1478	1500	1487	1494	1505	416
25°	1334	1356	1352	1346	1354	615
35°	1137	1154	1144	1133	1133	712
45°	911	920	904	878	864	702
55°	672	680	656	616	596	602
65°	443	446	423	392	381	441
75°	239	239	244	237	233	256
85°	73	88	122	131	131	77
90°	7	48	89	107	109	10
95°	59	89	84	104	115	60
105°	166	231	853	1095	736	176
115°	271	317	730	1512	1767	269
125°	376	422	686	1195	1414	334
135°	456	506	688	984	1130	351
145°	539	585	693	858	949	339
155°	632	655	707	777	814	290
165°	702	711	725	744	758	197
175°	739	744	739	735	730	70
180°	739	739	739	739	739	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1569.4	1569.4	1569.4	1569.4	1569.4
2.5°	1555.2	1577.7	1564.0	1567.6	1569.4
5°	1545.0	1573.1	1558.3	1560.7	1571.6
7.5°	1530.8	1556.8	1543.6	1546.6	1559.2
10°	1518.4	1544.4	1529.5	1534.1	1545.0
12.5°	1502.4	1526.7	1515.3	1519.9	1530.8
15°	1478.5	1500.1	1487.3	1494.2	1505.1
17.5°	1443.0	1466.4	1452.8	1456.6	1467.4
20°	1416.4	1438.1	1429.7	1430.0	1440.8
22.5°	1384.5	1407.9	1401.3	1396.3	1408.9
25°	1334.4	1356.1	1352.1	1345.7	1354.3
27.5°	1284.7	1300.8	1293.2	1286.7	1293.2
30°	1245.7	1265.2	1252.4	1245.9	1252.4
32.5°	1203.2	1222.7	1209.8	1201.5	1204.5
35°	1137.1	1154.5	1143.8	1132.7	1132.7
37.5°	1074.6	1085.9	1078.6	1059.9	1055.1
40°	1028.5	1041.5	1030.7	1008.4	1001.9
42.5°	980.6	993.6	981.1	956.9	946.9
45°	911.0	919.7	904.4	877.5	864.5
47.5°	839.2	848.3	827.2	797.6	782.0
50°	791.3	802.2	775.8	744.4	727.0
52.5°	745.2	752.6	727.9	691.2	675.6
55°	671.6	680.3	656.1	615.8	596.3
57.5°	602.9	611.2	582.5	544.1	528.9
60°	558.6	565.1	536.4	496.2	481.0
62.5°	508.9	515.4	488.5	453.6	438.4
65°	443.3	445.5	423.4	392.1	381.3
67.5°	381.7	381.7	363.1	339.8	331.2
70°	339.1	339.1	325.8	307.9	299.2
72.5°	300.1	298.4	290.4	277.8	270.9
75°	239.4	239.4	243.8	237.1	232.7
77.5°	186.2	182.7	201.7	200.8	198.6
80°	150.7	150.7	175.1	179.5	177.3
82.5°	118.8	122.3	153.8	160.0	157.8
85°	73.1	88.3	121.9	130.8	130.8
87.5°	33.2	60.6	97.6	110.1	110.5
90°	6.6	48.0	89.1	107.1	109.3
92.5°	24.9	49.0	86.1	107.9	115.4
95°	59.4	89.0	83.7	104.2	115.4
97.5°	92.6	145.6	307.1	127.3	119.0
100°	114.9	177.1	575.3	199.3	149.1
102.5°	135.5	201.2	761.6	456.8	266.7
105°	166.3	230.6	852.7	1095.2	735.8
107.5°	197.1	242.8	809.7	1577.2	1480.3
110°	217.7	261.4	785.6	1653.1	1778.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	240.0	283.7	763.3	1603.1	1811.7
115°	271.3	317.1	729.8	1512.1	1766.7
117.5°	303.0	350.6	721.0	1412.0	1673.9
120°	327.3	372.9	704.3	1336.0	1608.8
122.5°	345.9	393.5	685.7	1272.3	1523.3
125°	376.2	421.9	685.7	1195.3	1413.5
127.5°	400.5	449.7	686.7	1106.0	1321.5
130°	413.6	468.2	690.4	1046.2	1250.8
132.5°	428.7	483.2	688.6	1019.3	1187.6
135°	455.7	505.7	688.2	984.4	1129.9
137.5°	478.9	532.6	688.2	945.8	1070.4
140°	497.5	547.5	688.2	923.2	1036.9
142.5°	516.1	562.5	691.9	897.0	1003.4
145°	539.4	584.8	692.8	857.6	948.6
147.5°	567.3	607.3	698.4	829.3	899.3
150°	585.9	622.3	702.1	810.4	869.5
152.5°	604.5	637.2	702.1	795.3	843.5
155°	632.4	655.1	706.8	777.3	813.7
157.5°	654.7	676.5	712.4	766.0	792.3
160°	669.6	687.8	716.1	758.4	781.2
162.5°	680.7	698.9	719.8	754.6	770.0
165°	702.1	711.2	725.4	744.3	757.9
167.5°	714.2	722.4	730.0	739.5	747.7
170°	725.4	729.9	730.0	739.4	744.0
172.5°	729.1	737.3	733.7	735.7	740.3
175°	739.3	743.9	739.3	734.6	730.0
177.5°	739.3	743.0	739.3	739.2	735.6
180°	739.3	739.3	739.3	739.3	739.3

(END OF REPORT)