

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: P644220

Luminaire Tested: CRQ4DIP-SR4F0-100D50U830-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644220
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-SR4F0-100D50U830-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 500 LUMENS PER FOOT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

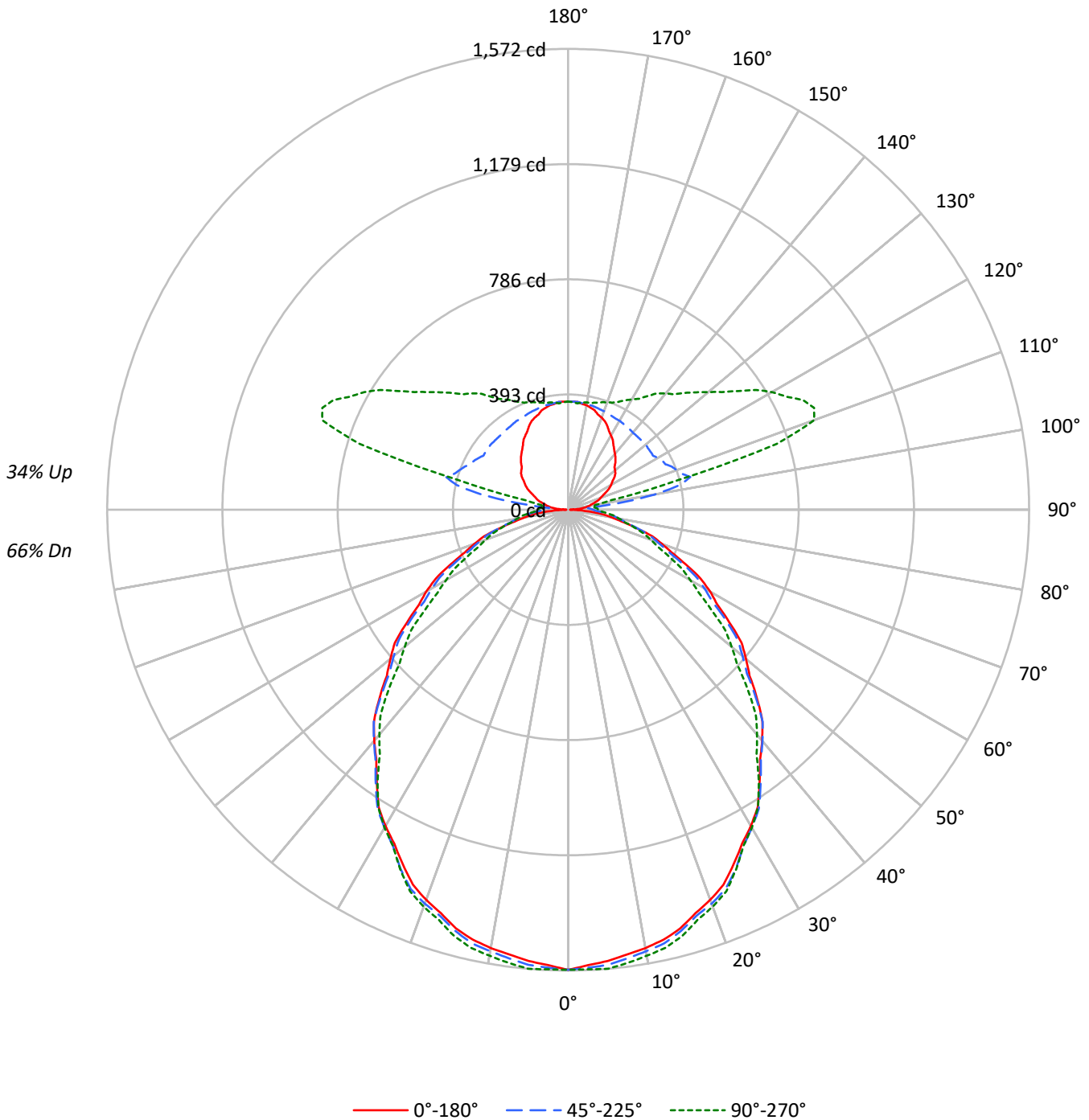
Lumens per Lamp: N/A
Luminaire Lumens: 6028.1 lumens
Efficiency: N/A
Efficacy: 135.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: Semi-Direct

Input Watts (W): 44.5
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				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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71	66
1	101	97	92	89	95	91	87	84	81	78	75	71	69	67	62	61	59	55
2	92	84	78	73	86	80	74	69	71	66	63	62	59	56	55	52	50	46
3	84	74	67	61	79	70	63	58	62	57	53	55	51	48	49	45	43	39
4	77	66	58	52	72	62	55	49	56	50	45	49	45	41	44	40	37	34
5	71	59	51	44	66	56	48	43	50	44	39	45	40	36	39	35	32	29
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	36	32	29	26
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	33	29	25	23
8	56	44	36	30	53	42	34	29	38	31	27	34	29	25	30	26	23	21
9	53	40	32	27	49	38	31	26	35	29	24	31	26	23	28	24	21	19
10	49	37	29	25	46	35	28	24	32	26	22	29	24	20	26	22	19	17

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	2.5
10°-20°	420.3	7.0
20°-30°	620.5	10.3
30°-40°	713.4	11.8
40°-50°	692.0	11.5
50°-60°	579.3	9.6
60°-70°	417.4	6.9
70°-80°	255.0	4.2
80°-90°	124.7	2.1
90°-100°	94.4	1.6
100°-110°	340.9	5.7
110°-120°	444.9	7.4
120°-130°	359.6	6.0
130°-140°	287.5	4.8
140°-150°	226.4	3.8
150°-160°	165.6	2.7
160°-170°	102.8	1.7
170°-180°	35.1	0.6
0°-30°	1189.0	19.7
0°-40°	1902.4	31.6
0°-60°	3173.7	52.6
0°-90°	3970.8	65.9
90°-120°	880.2	14.6
90°-150°	1753.8	29.1
90°-180°	2057.0	34.1
0°-180°	6028.1	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	46	84	100	102	9
95°	41	54	65	83	90	39
105°	94	120	431	556	379	99
115°	143	162	366	757	884	142
125°	192	213	343	596	705	170
135°	227	252	343	491	564	176
145°	269	292	346	428	473	169
155°	316	327	353	388	406	145
165°	350	355	362	371	378	98
175°	369	371	369	366	364	35
180°	369	369	369	369	369	

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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	60.1	96.7	108.7	109.1
90°	6.6	45.8	84.4	100.1	102.3
92.5°	19.3	41.1	75.8	93.4	99.1
95°	40.7	54.4	65.1	83.1	89.8
97.5°	59.5	79.2	170.1	86.9	84.0
100°	70.7	94.1	300.3	118.4	95.5
102.5°	80.0	105.2	389.8	243.3	149.7
105°	94.1	119.6	431.0	556.5	379.3
107.5°	108.1	124.6	407.1	793.1	745.9
110°	117.5	133.9	394.2	829.2	892.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	128.6	145.0	383.0	802.5	907.7
115°	143.1	161.7	366.3	756.6	883.7
117.5°	157.6	178.3	361.7	705.3	836.0
120°	168.8	189.5	352.5	666.6	802.7
122.5°	178.1	198.8	343.2	634.8	760.0
125°	192.1	212.8	343.2	596.4	705.2
127.5°	202.9	226.6	343.7	551.8	659.3
130°	208.6	235.8	345.6	522.0	624.1
132.5°	214.3	241.5	343.8	508.6	592.5
135°	227.3	252.3	343.3	491.1	563.7
137.5°	238.9	265.7	343.3	471.9	534.0
140°	248.2	273.2	343.3	460.6	517.3
142.5°	257.5	280.6	345.2	447.6	500.6
145°	269.1	291.8	345.7	427.9	473.3
147.5°	283.0	303.0	348.4	413.7	448.7
150°	292.3	310.5	350.3	404.3	433.8
152.5°	301.6	317.9	350.3	396.8	420.8
155°	315.5	326.8	352.6	387.8	406.0
157.5°	326.6	337.5	355.4	382.2	395.3
160°	334.1	343.1	357.3	378.4	389.7
162.5°	339.6	348.7	359.1	376.5	384.2
165°	350.3	354.8	361.9	371.3	378.1
167.5°	356.3	360.4	364.2	369.0	373.0
170°	361.9	364.2	364.2	368.9	371.2
172.5°	363.8	367.8	366.1	367.1	369.3
175°	368.9	371.1	368.9	366.5	364.2
177.5°	368.9	370.7	368.9	368.8	367.0
180°	368.9	368.9	368.9	368.9	368.9

(END OF REPORT)