

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: P644171

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

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644171
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-28, 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-FLLFLL-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
UPLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

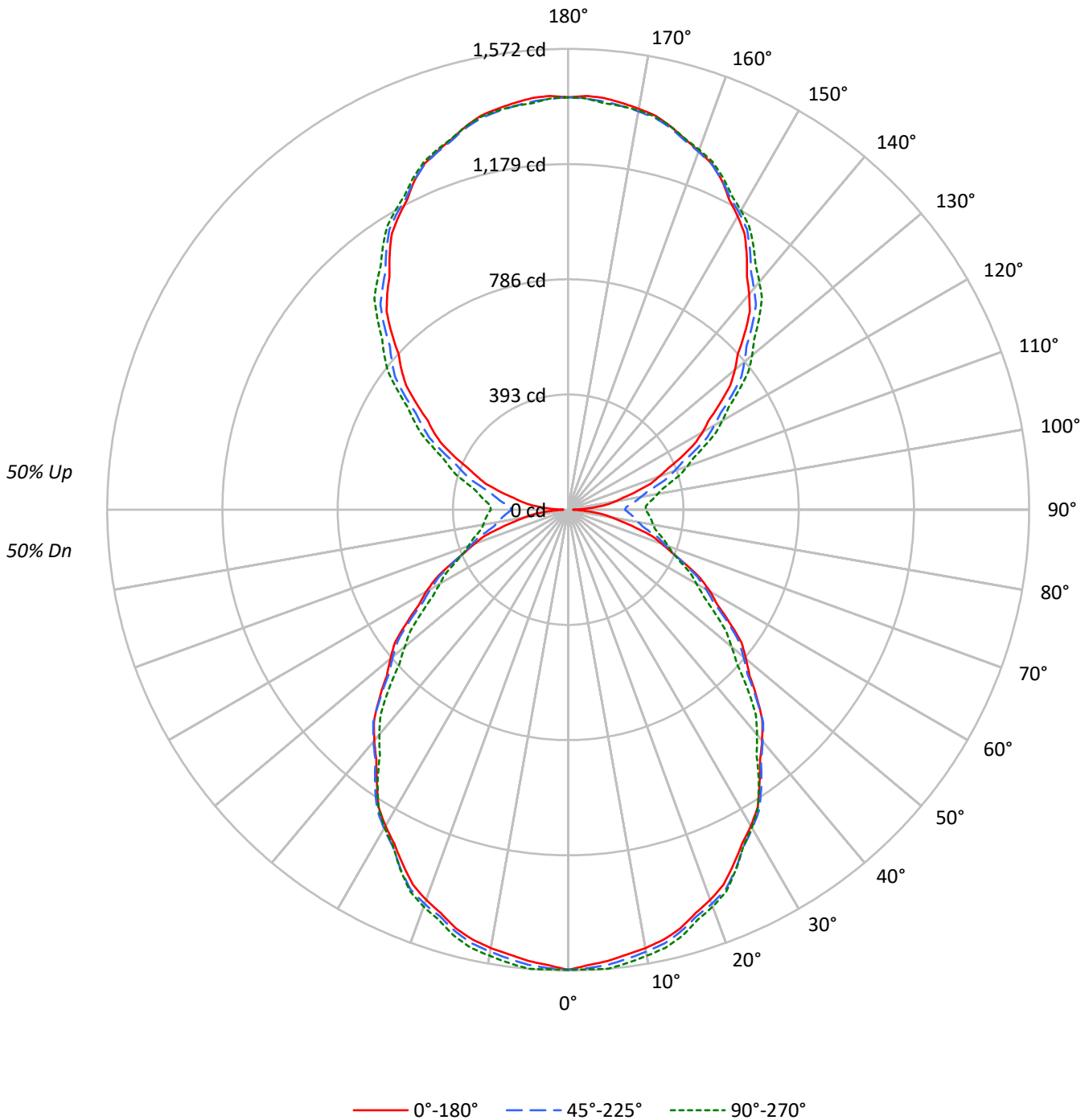
Lumens per Lamp: N/A
Luminaire Lumens: 8200.4 lumens
Efficiency: N/A
Efficacy: 139.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: General Diffuse

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	84	84	84	69	69	69	57	57	57	50				
1	97	93	88	85	89	86	82	79	72	70	67	60	58	57	49	48	46	41				
2	88	81	74	69	81	75	69	64	63	59	56	53	50	47	43	41	39	34				
3	81	71	63	57	74	66	59	54	56	51	47	47	43	40	38	35	33	29				
4	74	63	55	49	68	58	51	46	50	44	40	42	37	34	34	31	29	25				
5	68	56	48	42	62	52	45	39	44	39	34	37	33	30	31	28	25	22				
6	62	50	42	36	57	47	39	34	40	34	30	34	29	26	28	25	22	19				
7	58	45	37	32	53	42	35	30	36	31	26	31	26	23	26	22	20	17				
8	54	41	33	28	49	38	31	27	33	28	24	28	24	21	24	20	18	15				
9	50	38	30	25	46	35	28	24	30	25	21	26	22	18	22	18	16	14				
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	25339	25339	25339
5°	24859	22373	21678
10°	24534	19924	18726
15°	24174	17843	16380
20°	23620	16008	14327
25°	22883	14279	12484
30°	22158	12648	10836
35°	21177	11140	9301
40°	20261	9729	7885
45°	19201	8364	6580
50°	18081	7113	5397
55°	16894	5977	4429
60°	15763	4932	3652
65°	14368	4026	3056
70°	13026	3285	2631
75°	11392	2756	2364
80°	9515	2408	2213
85°	6936	2259	2175

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°	148.2	1.8
10°-20°	420.6	5.1
20°-30°	621.0	7.6
30°-40°	714.6	8.7
40°-50°	693.5	8.5
50°-60°	584.4	7.1
60°-70°	437.3	5.3
70°-80°	302.6	3.7
80°-90°	215.3	2.6
90°-100°	216.5	2.6
100°-110°	324.0	4.0
110°-120°	470.0	5.7
120°-130°	606.0	7.4
130°-140°	684.5	8.3
140°-150°	676.2	8.2
150°-160°	571.9	7.0
160°-170°	380.8	4.6
170°-180°	133.2	1.6
0°-30°	1189.7	14.5
0°-40°	1904.3	23.2
0°-60°	3182.2	38.8
0°-90°	4137.3	50.5
90°-120°	1010.5	12.3
90°-150°	2977.1	36.3
90°-180°	4063.0	49.5
0°-180°	8200.4	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	1503	1489	1494	1505	416
25°	1334	1359	1352	1346	1354	615
35°	1137	1159	1148	1133	1133	712
45°	911	924	906	878	864	702
55°	672	686	659	620	607	602
65°	443	454	438	427	423	441
75°	239	251	287	314	321	256
85°	73	123	218	267	280	77
90°	17	93	193	247	264	16
95°	89	118	212	265	276	89
105°	242	249	308	353	362	258
115°	426	441	476	505	512	423
125°	632	652	682	705	711	566
135°	851	870	887	910	920	656
145°	1062	1075	1081	1089	1101	663
155°	1239	1247	1241	1243	1250	569
165°	1353	1359	1348	1344	1353	381
175°	1410	1416	1398	1392	1392	134
180°	1407	1407	1407	1407	1407	

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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	1565.2	1567.6	1569.4
5°	1545.0	1573.1	1558.3	1560.7	1571.6
7.5°	1530.8	1558.0	1545.1	1546.6	1559.2
10°	1518.4	1544.4	1530.9	1534.1	1545.0
12.5°	1502.4	1529.0	1515.6	1519.9	1530.8
15°	1478.5	1503.1	1488.8	1494.2	1505.1
17.5°	1443.0	1467.9	1454.3	1456.6	1467.4
20°	1416.4	1439.5	1431.2	1430.0	1440.8
22.5°	1384.5	1409.4	1402.8	1396.3	1408.9
25°	1334.4	1359.0	1352.1	1345.7	1354.3
27.5°	1284.7	1306.0	1295.0	1286.7	1293.2
30°	1245.7	1268.2	1255.4	1245.9	1252.4
32.5°	1203.2	1226.8	1212.8	1201.5	1204.5
35°	1137.1	1158.8	1148.2	1132.7	1132.7
37.5°	1074.6	1091.7	1080.1	1059.9	1055.1
40°	1028.5	1047.3	1032.2	1008.4	1001.9
42.5°	980.6	999.5	983.8	956.9	946.9
45°	911.0	924.1	905.9	877.5	864.5
47.5°	839.2	853.9	829.3	797.6	782.0
50°	791.3	806.5	780.3	744.4	727.0
52.5°	745.2	758.1	731.2	692.4	678.0
55°	671.6	686.1	659.1	620.4	606.7
57.5°	602.9	617.0	587.3	557.6	545.6
60°	558.6	570.9	542.4	515.7	504.9
62.5°	508.9	522.4	496.9	479.2	470.7
65°	443.3	454.2	438.3	426.6	423.1
67.5°	381.7	390.5	383.7	385.1	385.5
70°	339.1	347.9	351.2	360.4	362.0
72.5°	300.1	308.3	324.1	339.9	343.1
75°	239.4	251.1	287.1	313.5	320.8
77.5°	186.2	198.5	258.2	293.3	303.1
80°	150.7	171.2	242.3	282.8	293.8
82.5°	118.8	147.4	230.6	276.5	287.4
85°	73.1	123.4	217.5	267.0	280.1
87.5°	35.3	104.7	204.5	256.7	271.7
90°	17.1	93.4	193.3	247.3	264.1
92.5°	44.5	98.8	198.2	251.0	264.8
95°	89.4	117.9	212.3	265.4	276.3
97.5°	132.6	147.5	234.1	283.0	293.8
100°	162.5	172.1	252.1	299.2	309.4
102.5°	194.2	200.3	273.7	318.4	329.2
105°	241.7	249.1	308.2	353.2	361.9
107.5°	294.6	303.0	352.4	394.0	402.3
110°	329.8	342.4	385.2	422.7	432.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	369.3	381.8	419.9	453.8	463.3
115°	426.2	440.9	476.3	504.9	512.2
117.5°	485.6	502.3	534.4	560.4	567.4
120°	529.3	545.4	575.6	600.4	606.3
122.5°	568.7	586.6	617.5	642.3	648.1
125°	631.6	652.1	681.7	705.0	710.8
127.5°	696.1	716.9	744.1	767.7	775.3
130°	742.1	761.1	784.7	809.6	818.3
132.5°	784.0	803.0	824.7	850.2	860.1
135°	851.2	870.2	887.0	909.7	919.9
137.5°	916.0	934.4	947.4	965.3	978.1
140°	960.2	976.3	985.6	1002.3	1014.0
142.5°	1000.8	1016.9	1023.8	1038.1	1049.8
145°	1061.7	1074.9	1081.1	1088.9	1100.6
147.5°	1118.8	1131.6	1134.3	1141.0	1148.3
150°	1155.8	1167.5	1167.8	1170.9	1178.2
152.5°	1190.5	1201.0	1197.6	1199.6	1208.1
155°	1239.4	1246.7	1240.9	1242.6	1249.9
157.5°	1278.3	1285.6	1276.5	1279.3	1285.1
160°	1302.2	1309.5	1299.2	1300.8	1306.6
162.5°	1324.9	1329.8	1320.7	1318.8	1326.9
165°	1352.9	1358.8	1348.5	1344.2	1352.9
167.5°	1376.8	1382.7	1369.1	1364.5	1373.2
170°	1388.8	1394.6	1379.8	1374.0	1382.8
172.5°	1399.5	1405.4	1389.4	1382.3	1388.8
175°	1409.7	1415.5	1397.7	1391.8	1391.8
177.5°	1412.7	1416.2	1403.1	1397.3	1404.3
180°	1406.7	1406.7	1406.7	1406.7	1406.7

(END OF REPORT)