

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P644177

Luminaire Tested: CRQ4DIP-SR4F0-100D100U930-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644177  
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-SR4F0-100D100U930-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, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

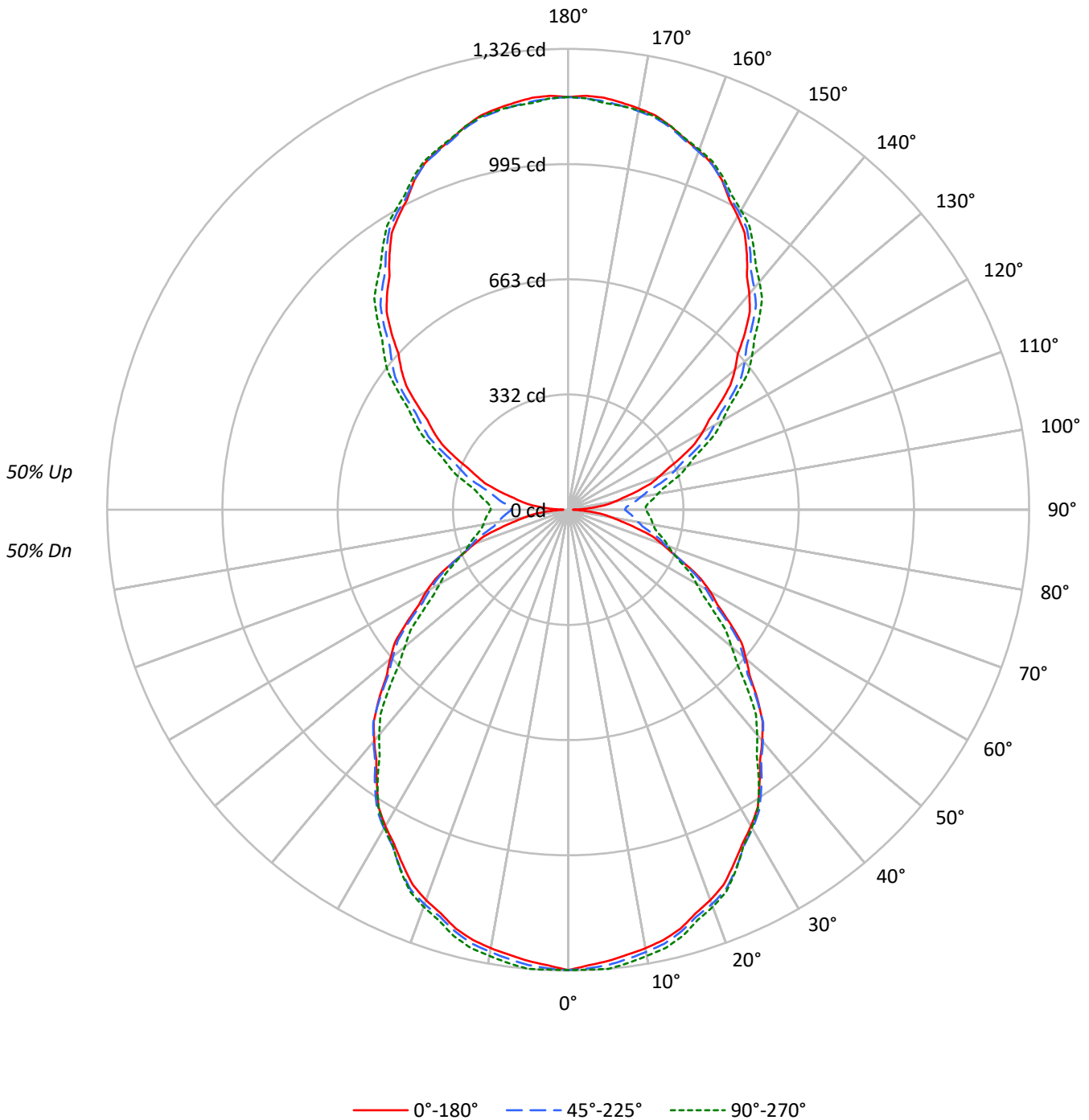
Lumens per Lamp: N/A  
Luminaire Lumens: 6920.7 lumens  
Efficiency: N/A  
Efficacy: 117.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: General Diffuse

Input Watts (W): 58.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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: P644177

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U930-FLLFLL-1DUDD-WW

### Luminous Intensity Polar Plot





TEST NUMBER: P644177

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U930-FLLFLL-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	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°	21385	21385	21385
5°	20980	18881	18295
10°	20704	16815	15804
15°	20402	15059	13824
20°	19935	13510	12092
25°	19313	12051	10536
30°	18700	10674	9145
35°	17873	9403	7849
40°	17099	8211	6655
45°	16206	7058	5553
50°	15259	6002	4555
55°	14258	5044	3737
60°	13302	4162	3082
65°	12125	3398	2579
70°	10994	2772	2220
75°	9612	2326	1996
80°	8031	2033	1868
85°	5854	1906	1835

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 16206 cd/sqm



TEST NUMBER: P644177

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U930-FLLFLL-1DUDD-WW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.1	1.8
10°-20°	354.9	5.1
20°-30°	524.1	7.6
30°-40°	603.1	8.7
40°-50°	585.3	8.5
50°-60°	493.2	7.1
60°-70°	369.0	5.3
70°-80°	255.4	3.7
80°-90°	181.7	2.6
90°-100°	182.7	2.6
100°-110°	273.5	4.0
110°-120°	396.7	5.7
120°-130°	511.4	7.4
130°-140°	577.7	8.3
140°-150°	570.7	8.2
150°-160°	482.7	7.0
160°-170°	321.4	4.6
170°-180°	112.4	1.6
0°-30°	1004.1	14.5
0°-40°	1607.1	23.2
0°-60°	2685.6	38.8
0°-90°	3491.7	50.5
90°-120°	852.8	12.3
90°-150°	2512.5	36.3
90°-180°	3429.0	49.5
0°-180°	6920.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1324	1324	1324	1324	1324	
5°	1304	1328	1315	1317	1326	124
15°	1248	1268	1256	1261	1270	351
25°	1126	1147	1141	1136	1143	519
35°	960	978	969	956	956	601
45°	769	780	764	740	730	593
55°	567	579	556	524	512	508
65°	374	383	370	360	357	372
75°	202	212	242	265	271	216
85°	62	104	184	225	236	65
90°	14	79	163	209	223	13
95°	75	100	179	224	233	75
105°	204	210	260	298	305	217
115°	360	372	402	426	432	357
125°	533	550	575	595	600	478
135°	718	734	749	768	776	554
145°	896	907	912	919	929	560
155°	1046	1052	1047	1049	1055	480
165°	1142	1147	1138	1134	1142	322
175°	1190	1195	1180	1175	1175	113
180°	1187	1187	1187	1187	1187	

TEST NUMBER: P644177

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U930-FLLFLL-1DUDD-WW

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1324.5	1324.5	1324.5	1324.5	1324.5
2.5°	1312.5	1331.5	1321.0	1323.0	1324.5
5°	1303.9	1327.7	1315.1	1317.2	1326.3
7.5°	1291.9	1314.8	1304.0	1305.2	1315.9
10°	1281.4	1303.4	1292.0	1294.7	1303.9
12.5°	1268.0	1290.4	1279.1	1282.8	1291.9
15°	1247.8	1268.5	1256.5	1261.1	1270.2
17.5°	1217.8	1238.8	1227.3	1229.3	1238.4
20°	1195.4	1214.9	1207.9	1206.8	1216.0
22.5°	1168.4	1189.4	1183.9	1178.4	1189.0
25°	1126.2	1146.9	1141.1	1135.7	1143.0
27.5°	1084.3	1102.2	1092.9	1085.9	1091.4
30°	1051.3	1070.3	1059.5	1051.5	1056.9
32.5°	1015.4	1035.3	1023.5	1014.0	1016.5
35°	959.7	978.0	969.1	955.9	955.9
37.5°	906.9	921.4	911.5	894.5	890.5
40°	868.0	883.9	871.1	851.0	845.6
42.5°	827.6	843.5	830.2	807.6	799.2
45°	768.9	779.9	764.5	740.5	729.6
47.5°	708.2	720.6	699.9	673.2	660.0
50°	667.8	680.7	658.5	628.2	613.6
52.5°	628.9	639.8	617.1	584.4	572.2
55°	566.8	579.1	556.2	523.6	512.0
57.5°	508.8	520.7	495.7	470.6	460.5
60°	471.4	481.8	457.8	435.2	426.1
62.5°	429.5	440.9	419.4	404.4	397.2
65°	374.1	383.4	369.9	360.0	357.0
67.5°	322.1	329.5	323.8	325.0	325.4
70°	286.2	293.6	296.4	304.2	305.5
72.5°	253.3	260.2	273.5	286.8	289.6
75°	202.0	211.9	242.3	264.6	270.8
77.5°	157.1	167.5	217.9	247.6	255.8
80°	127.2	144.5	204.5	238.7	248.0
82.5°	100.3	124.4	194.6	233.3	242.6
85°	61.7	104.1	183.5	225.3	236.4
87.5°	29.8	88.4	172.6	216.6	229.3
90°	14.4	78.8	163.1	208.7	222.9
92.5°	37.6	83.4	167.3	211.8	223.5
95°	75.4	99.5	179.2	224.0	233.2
97.5°	111.9	124.5	197.6	238.9	248.0
100°	137.1	145.3	212.7	252.5	261.1
102.5°	163.9	169.1	231.0	268.8	277.8
105°	204.0	210.2	260.1	298.0	305.4
107.5°	248.6	255.7	297.4	332.5	339.5
110°	278.4	288.9	325.1	356.8	364.8



TEST NUMBER: P644177

CATALOG NUMBER: CRQ4DIP-SR4F0-100D100U930-FLLFLL-1DUDD-WW

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	311.6	322.2	354.3	383.0	391.0
115°	359.7	372.1	402.0	426.1	432.2
117.5°	409.9	424.0	451.0	473.0	478.9
120°	446.7	460.3	485.8	506.7	511.7
122.5°	479.9	495.0	521.1	542.0	547.0
125°	533.0	550.3	575.3	595.0	599.9
127.5°	587.5	605.0	628.0	647.9	654.3
130°	626.3	642.3	662.3	683.2	690.6
132.5°	661.6	677.7	696.0	717.5	725.9
135°	718.4	734.4	748.6	767.7	776.3
137.5°	773.1	788.6	799.5	814.6	825.5
140°	810.4	823.9	831.8	845.9	855.7
142.5°	844.6	858.2	864.0	876.1	886.0
145°	896.1	907.1	912.4	919.0	928.8
147.5°	944.2	955.0	957.3	963.0	969.2
150°	975.5	985.3	985.5	988.2	994.4
152.5°	1004.7	1013.6	1010.7	1012.4	1019.6
155°	1046.0	1052.2	1047.3	1048.7	1054.8
157.5°	1078.8	1085.0	1077.3	1079.7	1084.6
160°	1099.0	1105.1	1096.4	1097.8	1102.7
162.5°	1118.1	1122.3	1114.6	1113.0	1119.9
165°	1141.8	1146.7	1138.0	1134.4	1141.8
167.5°	1162.0	1166.9	1155.4	1151.6	1158.9
170°	1172.1	1177.0	1164.5	1159.6	1167.0
172.5°	1181.1	1186.1	1172.6	1166.6	1172.1
175°	1189.7	1194.6	1179.6	1174.6	1174.6
177.5°	1192.2	1195.2	1184.2	1179.2	1185.2
180°	1187.2	1187.2	1187.2	1187.2	1187.2

(END OF REPORT)