

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: P644414

Luminaire Tested: CRQ4DIP-SR4F0-75D150U835-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644414  
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-SR4F0-75D150U835-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 1500 LUMENS PER FOOT  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

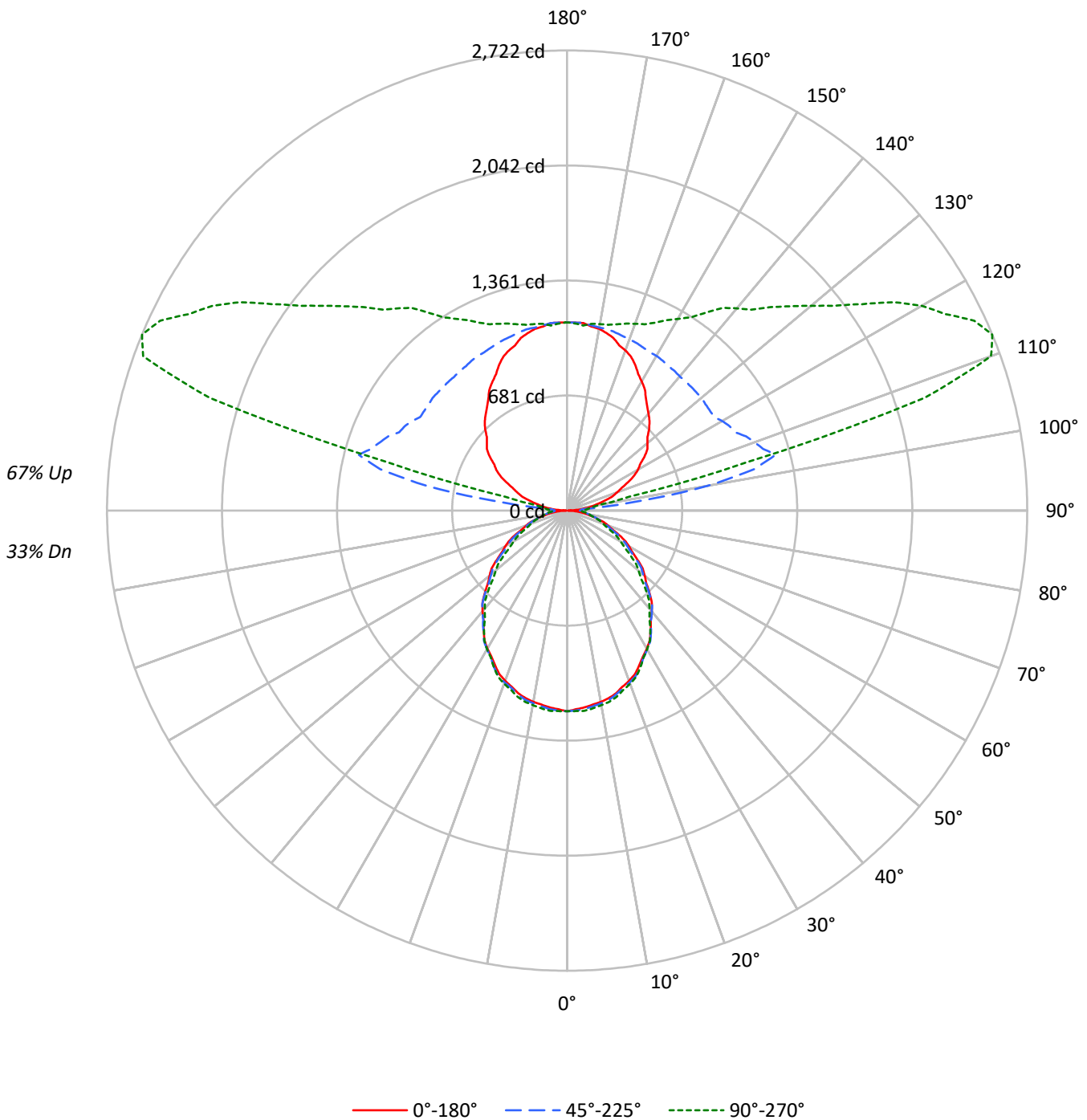
Lumens per Lamp: N/A  
Luminaire Lumens: 9042.5 lumens  
Efficiency: N/A  
Efficacy: 128.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Indirect

Input Watts (W): 70.4  
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										
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	50	30	10	0														
RCR																																						
0	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	33																				
1	94	90	86	82	84	81	78	75	65	62	60	50	48	47	36	35	34	28																				
2	85	78	72	67	77	71	66	61	57	53	50	44	41	39	32	30	29	23																				
3	78	69	62	56	70	62	56	51	50	46	42	39	36	33	28	26	25	20																				
4	71	61	53	47	64	55	49	43	44	40	36	34	31	28	25	23	21	17																				
5	65	54	46	40	59	49	42	37	40	35	31	31	27	25	23	20	18	15																				
6	60	48	41	35	54	44	37	32	36	31	27	28	24	21	20	18	16	13																				
7	56	44	36	31	50	40	33	28	32	27	24	25	22	19	19	16	14	12																				
8	52	40	32	27	46	36	29	25	29	24	21	23	19	17	17	15	13	10																				
9	48	36	29	24	43	33	26	22	27	22	19	21	18	15	16	13	12	9																				
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	12	11	9																				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	19168	19168	19168
5°	18806	16924	16400
10°	18559	15058	14167
15°	18288	13485	12392
20°	17869	12098	10838
25°	17311	10802	9444
30°	16763	9545	8197
35°	16020	8395	7036
40°	15328	7349	5965
45°	14526	6317	4978
50°	13678	5350	4083
55°	12782	4501	3293
60°	11925	3690	2632
65°	10871	2942	2083
70°	9857	2305	1646
75°	8617	1771	1298
80°	7198	1317	1010
85°	5247	958	768

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14526 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.1	1.2
10°-20°	318.0	3.5
20°-30°	469.4	5.2
30°-40°	539.7	6.0
40°-50°	523.5	5.8
50°-60°	438.3	4.8
60°-70°	315.8	3.5
70°-80°	192.9	2.1
80°-90°	96.2	1.1
90°-100°	173.9	1.9
100°-110°	988.7	10.9
110°-120°	1328.7	14.7
120°-130°	1079.5	11.9
130°-140°	866.9	9.6
140°-150°	683.3	7.6
150°-160°	499.6	5.5
160°-170°	310.3	3.4
170°-180°	105.8	1.2
0°-30°	899.4	9.9
0°-40°	1439.1	15.9
0°-60°	2400.9	26.6
0°-90°	3005.8	33.2
90°-120°	2491.3	27.6
90°-150°	5120.9	56.6
90°-180°	6037.0	66.8
0°-180°	9042.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1187	1187	1187	1187	1187	
5°	1169	1190	1179	1181	1189	111
15°	1118	1135	1125	1130	1139	315
25°	1010	1026	1023	1018	1024	465
35°	860	873	865	857	857	539
45°	689	696	684	664	654	531
55°	508	515	496	466	451	456
65°	335	337	320	297	288	334
75°	181	181	184	179	176	194
85°	55	67	92	99	99	58
90°	5	40	74	92	93	9
95°	73	119	91	110	126	77
105°	234	340	1276	1634	1090	247
115°	397	472	1096	2273	2657	394
125°	560	632	1031	1800	2128	497
135°	686	761	1036	1482	1701	528
145°	812	880	1043	1291	1428	510
155°	952	986	1064	1170	1225	437
165°	1057	1071	1092	1121	1141	297
175°	1113	1120	1113	1106	1099	105
180°	1113	1113	1113	1113	1113	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1187.2	1187.2	1187.2	1187.2	1187.2
2.5°	1176.5	1193.5	1183.2	1185.9	1187.2
5°	1168.8	1190.1	1178.8	1180.7	1188.9
7.5°	1158.0	1177.7	1167.8	1170.0	1179.5
10°	1148.6	1168.3	1157.0	1160.6	1168.8
12.5°	1136.6	1154.9	1146.3	1149.8	1158.0
15°	1118.5	1134.8	1125.2	1130.4	1138.6
17.5°	1091.6	1109.3	1099.0	1101.9	1110.1
20°	1071.5	1087.9	1081.6	1081.7	1089.9
22.5°	1047.4	1065.1	1060.1	1056.3	1065.8
25°	1009.5	1025.9	1022.9	1018.0	1024.5
27.5°	971.9	984.0	978.3	973.3	978.3
30°	942.4	957.1	947.4	942.5	947.4
32.5°	910.2	924.9	915.2	908.9	911.2
35°	860.2	873.3	865.2	856.9	856.9
37.5°	812.9	821.5	815.9	801.8	798.2
40°	778.1	787.9	779.7	762.8	757.9
42.5°	741.8	751.7	742.2	723.9	716.3
45°	689.2	695.7	684.2	663.8	654.0
47.5°	634.9	641.7	625.8	603.4	591.6
50°	598.6	606.8	586.9	563.1	550.0
52.5°	563.8	569.3	550.7	522.9	511.1
55°	508.1	514.6	496.3	465.8	451.1
57.5°	456.1	462.3	440.7	411.6	400.1
60°	422.6	427.5	405.8	375.4	363.9
62.5°	385.0	389.9	369.6	343.2	331.7
65°	335.4	337.0	320.3	296.6	288.4
67.5°	288.8	288.8	274.7	257.1	250.5
70°	256.6	256.6	246.5	232.9	226.4
72.5°	227.0	225.7	219.7	210.2	204.9
75°	181.1	181.1	184.5	179.3	176.1
77.5°	140.9	138.2	152.6	151.9	150.2
80°	114.0	114.0	132.5	135.8	134.1
82.5°	89.9	92.5	116.4	121.0	119.4
85°	55.3	66.8	92.2	98.9	98.9
87.5°	25.2	46.5	75.2	85.4	85.7
90°	5.0	39.7	74.4	91.5	93.1
92.5°	27.2	48.8	80.4	103.3	111.7
95°	72.8	119.0	91.2	110.3	125.6
97.5°	119.5	209.3	437.1	156.7	142.2
100°	153.1	258.0	846.2	271.7	192.9
102.5°	185.4	295.8	1132.1	664.8	376.6
105°	233.8	340.3	1275.5	1633.9	1089.5
107.5°	282.2	360.3	1214.4	2365.2	2217.7
110°	314.4	388.4	1179.5	2482.2	2668.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	348.0	422.0	1145.9	2409.5	2721.9
115°	396.8	472.4	1095.5	2273.3	2656.6
117.5°	446.6	522.7	1082.5	2124.5	2518.8
120°	484.4	556.4	1058.8	2011.5	2422.2
122.5°	512.4	588.6	1030.8	1915.6	2293.4
125°	559.8	631.8	1030.8	1799.6	2128.2
127.5°	598.3	673.7	1032.2	1665.1	1989.6
130°	619.4	701.5	1037.8	1575.1	1883.2
132.5°	644.7	726.9	1036.4	1534.7	1788.0
135°	686.1	761.4	1036.1	1482.1	1701.2
137.5°	721.1	801.8	1036.1	1424.0	1611.5
140°	749.1	824.4	1036.1	1390.0	1561.1
142.5°	777.1	846.9	1041.7	1350.6	1510.7
145°	812.1	880.5	1043.1	1291.2	1428.1
147.5°	854.1	914.3	1051.5	1248.5	1353.9
150°	882.1	936.8	1057.1	1220.1	1309.1
152.5°	910.1	959.4	1057.1	1197.4	1269.9
155°	952.1	986.3	1064.1	1170.3	1225.1
157.5°	985.7	1018.5	1072.5	1153.2	1192.9
160°	1008.1	1035.5	1078.1	1141.9	1176.1
162.5°	1024.9	1052.3	1083.7	1136.0	1159.3
165°	1057.1	1070.8	1092.1	1120.6	1141.1
167.5°	1075.3	1087.6	1099.1	1113.4	1125.7
170°	1092.1	1098.9	1099.1	1113.3	1120.1
172.5°	1097.7	1110.0	1104.7	1107.7	1114.5
175°	1113.1	1119.9	1113.1	1105.9	1099.1
177.5°	1113.1	1118.6	1113.1	1113.0	1107.5
180°	1113.1	1113.1	1113.1	1113.1	1113.1

(END OF REPORT)