

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: P644412

Luminaire Tested: CRQ4DIP-SR4F0-75D150U830-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644412
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-SR4F0-75D150U830-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: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

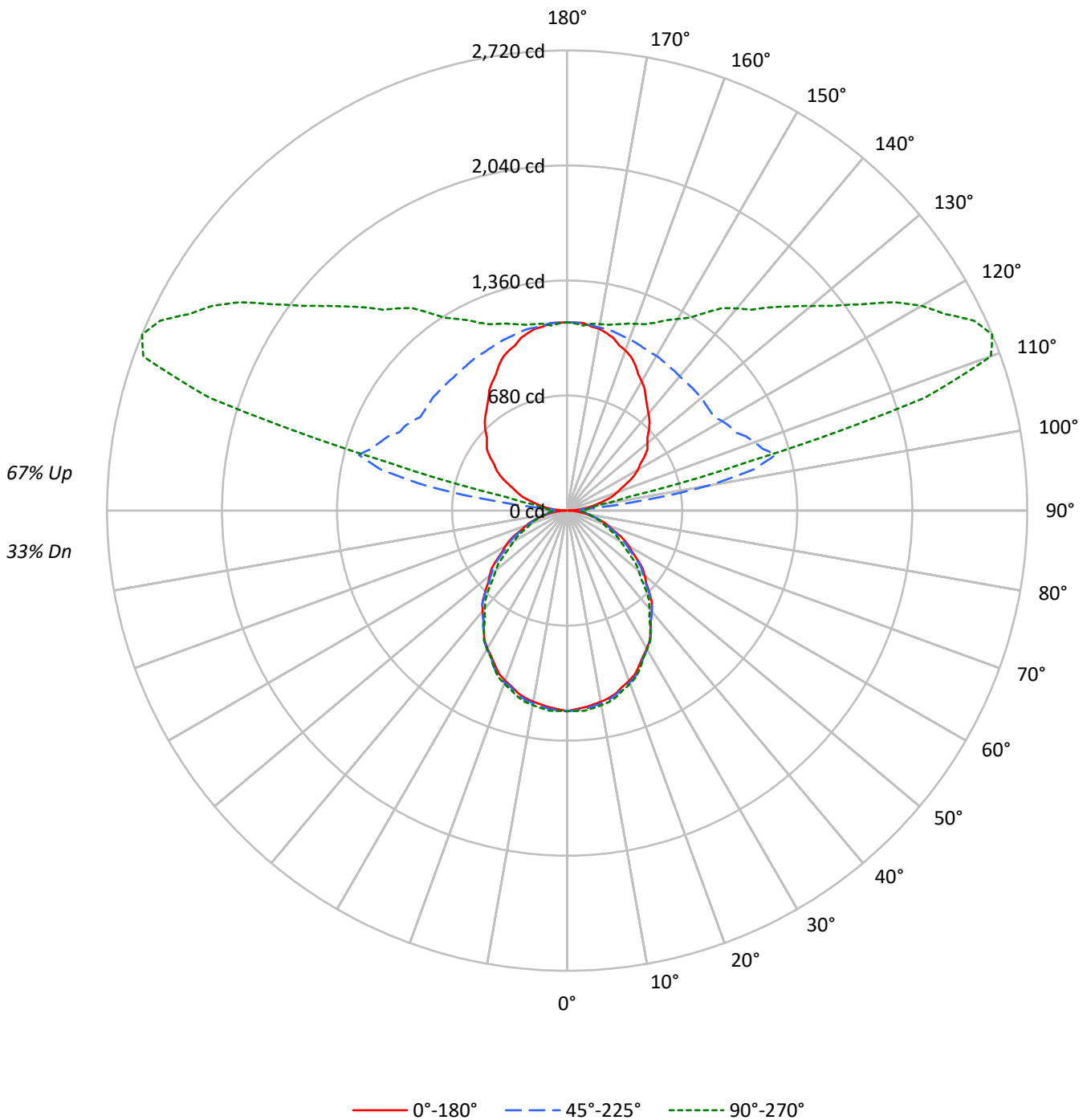
Lumens per Lamp: N/A
Luminaire Lumens: 9034.3 lumens
Efficiency: N/A
Efficacy: 128.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: Semi-Indirect

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				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	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°	19151	19151	19151
5°	18789	16910	16384
10°	18542	15045	14153
15°	18270	13472	12380
20°	17852	12086	10829
25°	17294	10792	9436
30°	16747	9537	8190
35°	16005	8388	7030
40°	15314	7343	5959
45°	14514	6311	4973
50°	13666	5345	4079
55°	12769	4497	3290
60°	11914	3686	2629
65°	10861	2939	2082
70°	9845	2304	1644
75°	8608	1769	1296
80°	7192	1316	1009
85°	5247	956	767

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14514 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.0	1.2
10°-20°	317.7	3.5
20°-30°	469.0	5.2
30°-40°	539.2	6.0
40°-50°	523.0	5.8
50°-60°	437.9	4.8
60°-70°	315.5	3.5
70°-80°	192.7	2.1
80°-90°	96.2	1.1
90°-100°	173.8	1.9
100°-110°	987.8	10.9
110°-120°	1327.5	14.7
120°-130°	1078.5	11.9
130°-140°	866.1	9.6
140°-150°	682.6	7.6
150°-160°	499.1	5.5
160°-170°	310.0	3.4
170°-180°	105.7	1.2
0°-30°	898.6	9.9
0°-40°	1437.8	15.9
0°-60°	2398.7	26.6
0°-90°	3003.1	33.2
90°-120°	2489.0	27.6
90°-150°	5116.3	56.6
90°-180°	6031.0	66.8
0°-180°	9034.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1186	1186	1186	1186	1186	
5°	1168	1189	1178	1180	1188	111
15°	1117	1134	1124	1129	1138	314
25°	1008	1025	1022	1017	1024	465
35°	859	872	864	856	856	538
45°	689	695	684	663	653	531
55°	508	514	496	465	451	455
65°	335	337	320	296	288	333
75°	181	181	184	179	176	193
85°	55	67	92	99	99	58
90°	5	40	74	91	93	9
95°	73	119	91	110	126	77
105°	234	340	1274	1632	1089	246
115°	396	472	1094	2271	2654	393
125°	559	631	1030	1798	2126	497
135°	685	761	1035	1481	1700	528
145°	811	880	1042	1290	1427	510
155°	951	985	1063	1169	1224	437
165°	1056	1070	1091	1120	1140	297
175°	1112	1119	1112	1105	1098	105
180°	1112	1112	1112	1112	1112	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1186.1	1186.1	1186.1	1186.1	1186.1
2.5°	1175.4	1192.4	1182.1	1184.8	1186.1
5°	1167.7	1189.0	1177.8	1179.6	1187.8
7.5°	1157.0	1176.6	1166.7	1168.9	1178.4
10°	1147.6	1167.3	1156.0	1159.5	1167.7
12.5°	1135.5	1153.9	1145.3	1148.8	1157.0
15°	1117.4	1133.8	1124.1	1129.4	1137.5
17.5°	1090.6	1108.3	1098.0	1100.9	1109.1
20°	1070.5	1086.9	1080.6	1080.8	1089.0
22.5°	1046.4	1064.1	1059.1	1055.3	1064.8
25°	1008.5	1024.9	1021.9	1017.1	1023.6
27.5°	971.0	983.1	977.4	972.5	977.4
30°	941.5	956.3	946.6	941.6	946.6
32.5°	909.4	924.1	914.4	908.1	910.4
35°	859.4	872.5	864.5	856.1	856.1
37.5°	812.2	820.7	815.2	801.1	797.5
40°	777.4	787.2	779.0	762.2	757.2
42.5°	741.2	751.0	741.5	723.2	715.7
45°	688.6	695.1	683.5	663.2	653.4
47.5°	634.3	641.2	625.2	602.8	591.1
50°	598.1	606.3	586.4	562.6	549.5
52.5°	563.2	568.8	550.2	522.4	510.6
55°	507.6	514.2	495.9	465.4	450.7
57.5°	455.7	461.9	440.3	411.2	399.7
60°	422.2	427.1	405.4	375.0	363.5
62.5°	384.7	389.6	369.2	342.8	331.4
65°	335.1	336.7	320.0	296.3	288.2
67.5°	288.5	288.5	274.4	256.8	250.3
70°	256.3	256.3	246.3	232.7	226.2
72.5°	226.8	225.5	219.5	210.0	204.7
75°	180.9	180.9	184.3	179.2	175.9
77.5°	140.7	138.1	152.5	151.7	150.1
80°	113.9	113.9	132.4	135.7	134.0
82.5°	89.8	92.4	116.3	120.9	119.3
85°	55.3	66.8	92.1	98.8	98.8
87.5°	25.1	46.5	75.2	85.3	85.6
90°	5.0	39.7	74.3	91.4	93.0
92.5°	27.2	48.8	80.4	103.2	111.6
95°	72.7	118.9	91.1	110.2	125.5
97.5°	119.4	209.1	436.7	156.6	142.1
100°	153.0	257.8	845.4	271.5	192.7
102.5°	185.2	295.5	1131.0	664.2	376.2
105°	233.6	340.0	1274.3	1632.4	1088.6
107.5°	281.9	360.0	1213.3	2363.1	2215.7
110°	314.2	388.0	1178.4	2479.9	2666.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	347.7	421.6	1144.8	2407.4	2719.5
115°	396.4	471.9	1094.5	2271.2	2654.2
117.5°	446.2	522.3	1081.5	2122.6	2516.5
120°	484.0	555.9	1057.8	2009.7	2420.0
122.5°	512.0	588.1	1029.8	1913.8	2291.3
125°	559.3	631.2	1029.8	1798.0	2126.3
127.5°	597.8	673.1	1031.2	1663.6	1987.8
130°	618.9	700.9	1036.8	1573.7	1881.5
132.5°	644.1	726.2	1035.5	1533.3	1786.3
135°	685.4	760.7	1035.2	1480.8	1699.6
137.5°	720.4	801.1	1035.2	1422.7	1610.1
140°	748.4	823.6	1035.2	1388.8	1559.7
142.5°	776.4	846.1	1040.8	1349.3	1509.4
145°	811.3	879.7	1042.2	1290.1	1426.8
147.5°	853.3	913.5	1050.5	1247.4	1352.7
150°	881.3	936.0	1056.1	1219.0	1307.9
152.5°	909.3	958.5	1056.1	1196.3	1268.8
155°	951.2	985.4	1063.1	1169.3	1224.0
157.5°	984.8	1017.6	1071.5	1152.2	1191.8
160°	1007.2	1034.5	1077.1	1140.8	1175.0
162.5°	1024.0	1051.3	1082.7	1135.0	1158.3
165°	1056.1	1069.8	1091.1	1119.6	1140.1
167.5°	1074.3	1086.6	1098.1	1112.4	1124.7
170°	1091.1	1098.0	1098.1	1112.3	1119.1
172.5°	1096.7	1109.0	1103.7	1106.7	1113.5
175°	1112.1	1118.9	1112.1	1104.9	1098.1
177.5°	1112.1	1117.6	1112.1	1112.0	1106.5
180°	1112.1	1112.1	1112.1	1112.1	1112.1

(END OF REPORT)