

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: P644416

Luminaire Tested: CRQ4DIP-SR4F0-75D150U840-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644416
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-SR4F0-75D150U840-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: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

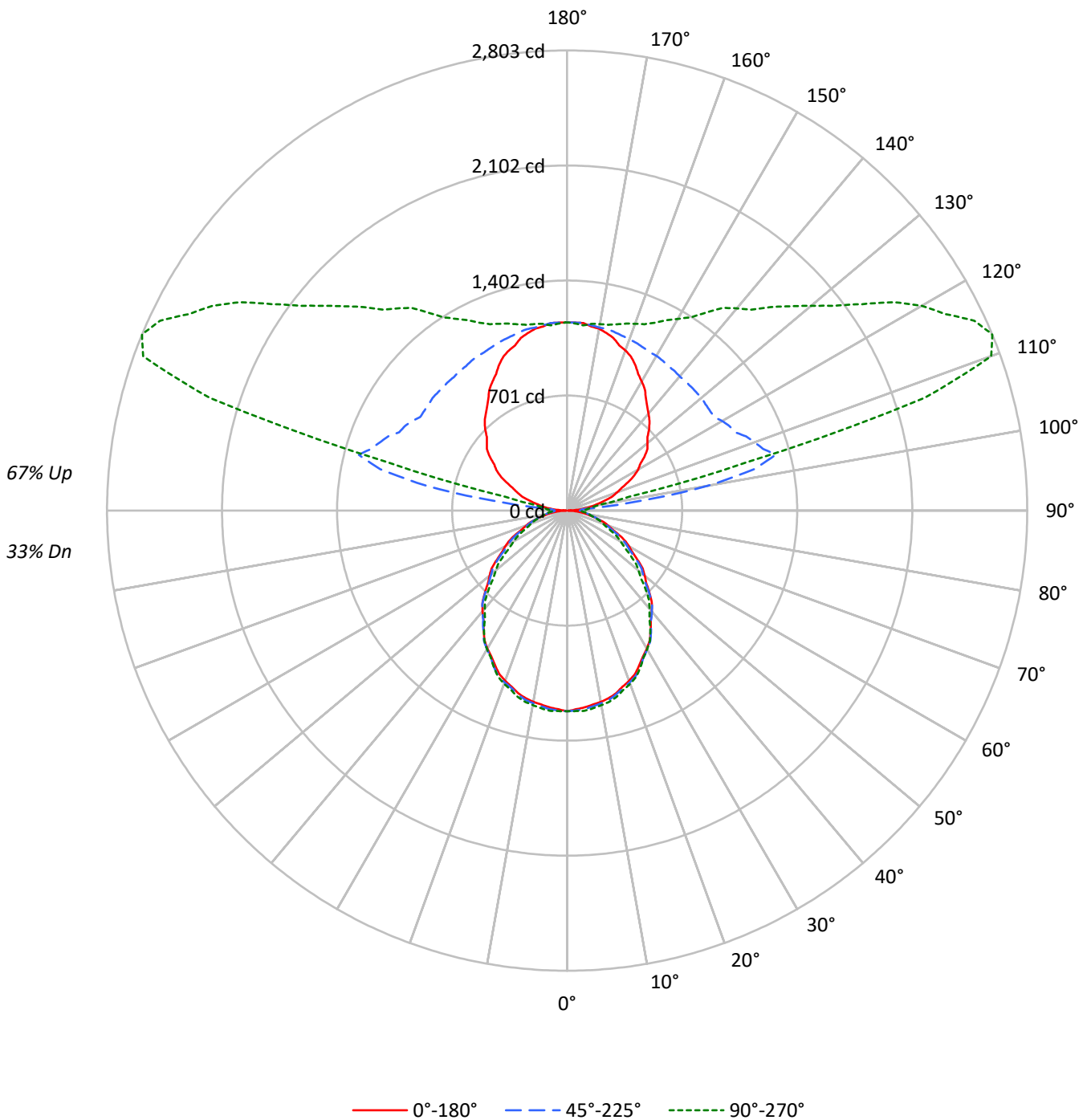
Lumens per Lamp: N/A
Luminaire Lumens: 9312.0 lumens
Efficiency: N/A
Efficacy: 132.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: Semi-Indirect

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

TEST NUMBER: P644416

CATALOG NUMBER: CRQ4DIP-SR4F0-75D150U840-FLLOOB-1DUDD-WW

Luminous Intensity Polar Plot





TEST NUMBER: P644416

CATALOG NUMBER: CRQ4DIP-SR4F0-75D150U840-FLLOOB-1DUDD-WW

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	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°	19740	19740	19740
5°	19366	17430	16888
10°	19113	15507	14588
15°	18832	13887	12761
20°	18401	12458	11161
25°	17828	11124	9726
30°	17263	9830	8442
35°	16499	8645	7246
40°	15783	7569	6142
45°	14959	6504	5126
50°	14087	5509	4205
55°	13161	4635	3391
60°	12281	3800	2710
65°	11195	3029	2145
70°	10149	2374	1694
75°	8874	1824	1336
80°	7413	1356	1040
85°	5408	987	791

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14959 cd/sqm



TEST NUMBER: P644416

CATALOG NUMBER: CRQ4DIP-SR4F0-75D150U840-FLLOOB-1DUDD-WW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.4	1.2
10°-20°	327.5	3.5
20°-30°	483.4	5.2
30°-40°	555.8	6.0
40°-50°	539.1	5.8
50°-60°	451.3	4.8
60°-70°	325.2	3.5
70°-80°	198.7	2.1
80°-90°	99.1	1.1
90°-100°	179.1	1.9
100°-110°	1018.1	10.9
110°-120°	1368.3	14.7
120°-130°	1111.7	11.9
130°-140°	892.8	9.6
140°-150°	703.6	7.6
150°-160°	514.5	5.5
160°-170°	319.6	3.4
170°-180°	109.0	1.2
0°-30°	926.3	9.9
0°-40°	1482.0	15.9
0°-60°	2472.5	26.6
0°-90°	3095.4	33.2
90°-120°	2565.5	27.6
90°-150°	5273.6	56.6
90°-180°	6217.0	66.8
0°-180°	9312.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1223	1223	1223	1223	1223	
5°	1204	1226	1214	1216	1224	114
15°	1152	1169	1159	1164	1172	324
25°	1040	1056	1053	1048	1055	479
35°	886	899	891	882	882	555
45°	710	716	704	684	674	547
55°	523	530	511	480	464	469
65°	345	347	330	306	297	344
75°	186	186	190	185	181	199
85°	57	69	95	102	102	60
90°	5	41	77	94	96	9
95°	75	123	94	114	129	79
105°	241	350	1314	1683	1122	254
115°	409	486	1128	2341	2736	405
125°	576	651	1062	1853	2192	512
135°	706	784	1067	1526	1752	544
145°	836	907	1074	1330	1471	525
155°	980	1016	1096	1205	1262	450
165°	1089	1103	1125	1154	1175	306
175°	1146	1153	1146	1139	1132	108
180°	1146	1146	1146	1146	1146	



TEST NUMBER: P644416

CATALOG NUMBER: CRQ4DIP-SR4F0-75D150U840-FLLOOB-1DUDD-WW

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1222.6	1222.6	1222.6	1222.6	1222.6
2.5°	1211.5	1229.1	1218.5	1221.2	1222.6
5°	1203.6	1225.5	1214.0	1215.9	1224.3
7.5°	1192.5	1212.8	1202.6	1204.9	1214.7
10°	1182.9	1203.1	1191.5	1195.2	1203.6
12.5°	1170.4	1189.4	1180.5	1184.1	1192.5
15°	1151.8	1168.7	1158.7	1164.1	1172.5
17.5°	1124.2	1142.4	1131.8	1134.7	1143.2
20°	1103.4	1120.3	1113.8	1114.0	1122.4
22.5°	1078.6	1096.8	1091.7	1087.8	1097.6
25°	1039.6	1056.4	1053.4	1048.3	1055.1
27.5°	1000.9	1013.4	1007.4	1002.4	1007.4
30°	970.5	985.7	975.7	970.6	975.7
32.5°	937.3	952.5	942.5	936.0	938.4
35°	885.9	899.4	891.0	882.4	882.4
37.5°	837.2	845.9	840.3	825.7	822.0
40°	801.2	811.4	803.0	785.6	780.5
42.5°	763.9	774.1	764.3	745.5	737.7
45°	709.7	716.5	704.5	683.6	673.5
47.5°	653.8	660.9	644.5	621.4	609.2
50°	616.5	624.9	604.4	579.9	566.4
52.5°	580.6	586.3	567.1	538.5	526.3
55°	523.2	530.0	511.1	479.7	464.5
57.5°	469.7	476.1	453.8	423.8	412.0
60°	435.2	440.2	417.9	386.5	374.7
62.5°	396.5	401.5	380.6	353.4	341.6
65°	345.4	347.1	329.8	305.5	297.0
67.5°	297.4	297.4	282.9	264.7	258.0
70°	264.2	264.2	253.8	239.9	233.1
72.5°	233.8	232.5	226.2	216.4	211.0
75°	186.5	186.5	190.0	184.7	181.3
77.5°	145.1	142.4	157.1	156.4	154.7
80°	117.4	117.4	136.4	139.8	138.1
82.5°	92.6	95.3	119.8	124.6	123.0
85°	57.0	68.8	95.0	101.9	101.9
87.5°	25.9	47.9	77.5	87.9	88.2
90°	5.2	40.9	76.6	94.2	95.9
92.5°	28.0	50.3	82.8	106.4	115.0
95°	74.9	122.6	93.9	113.6	129.4
97.5°	123.1	215.5	450.2	161.4	146.5
100°	157.7	265.7	871.4	279.8	198.6
102.5°	190.9	304.6	1165.8	684.7	387.8
105°	240.8	350.5	1313.5	1682.6	1122.0
107.5°	290.6	371.0	1250.6	2435.8	2283.8
110°	323.8	400.0	1214.6	2556.2	2748.2



TEST NUMBER: P644416

CATALOG NUMBER: CRQ4DIP-SR4F0-75D150U840-FLLOOB-1DUDD-WW

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	358.4	434.6	1180.0	2481.4	2803.1
115°	408.6	486.4	1128.1	2341.0	2735.8
117.5°	459.9	538.3	1114.8	2187.8	2593.9
120°	498.9	573.0	1090.3	2071.5	2494.4
122.5°	527.7	606.2	1061.5	1972.7	2361.8
125°	576.4	650.6	1061.5	1853.3	2191.6
127.5°	616.2	693.8	1062.9	1714.8	2048.9
130°	637.9	722.5	1068.7	1622.1	1939.3
132.5°	663.9	748.5	1067.3	1580.4	1841.3
135°	706.5	784.1	1067.0	1526.3	1751.9
137.5°	742.6	825.7	1067.0	1466.4	1659.6
140°	771.4	848.9	1067.0	1431.5	1607.7
142.5°	800.2	872.1	1072.7	1390.8	1555.8
145°	836.3	906.8	1074.2	1329.7	1470.7
147.5°	879.5	941.6	1082.8	1285.7	1394.3
150°	908.4	964.8	1088.6	1256.5	1348.1
152.5°	937.2	988.0	1088.6	1233.1	1307.8
155°	980.5	1015.7	1095.8	1205.2	1261.6
157.5°	1015.1	1048.9	1104.5	1187.6	1228.5
160°	1038.1	1066.3	1110.2	1175.9	1211.2
162.5°	1055.4	1083.6	1116.0	1169.9	1193.9
165°	1088.6	1102.7	1124.7	1154.0	1175.1
167.5°	1107.4	1120.0	1131.9	1146.6	1159.3
170°	1124.7	1131.7	1131.9	1146.4	1153.5
172.5°	1130.4	1143.1	1137.6	1140.7	1147.7
175°	1146.3	1153.3	1146.3	1138.9	1131.9
177.5°	1146.3	1151.9	1146.3	1146.2	1140.5
180°	1146.3	1146.3	1146.3	1146.3	1146.3

(END OF REPORT)