

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: P644398

Luminaire Tested: CRQ4DIP-SR4F0-75D100U940-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644398
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-SR4F0-75D100U940-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 1000 LUMENS PER FOOT
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

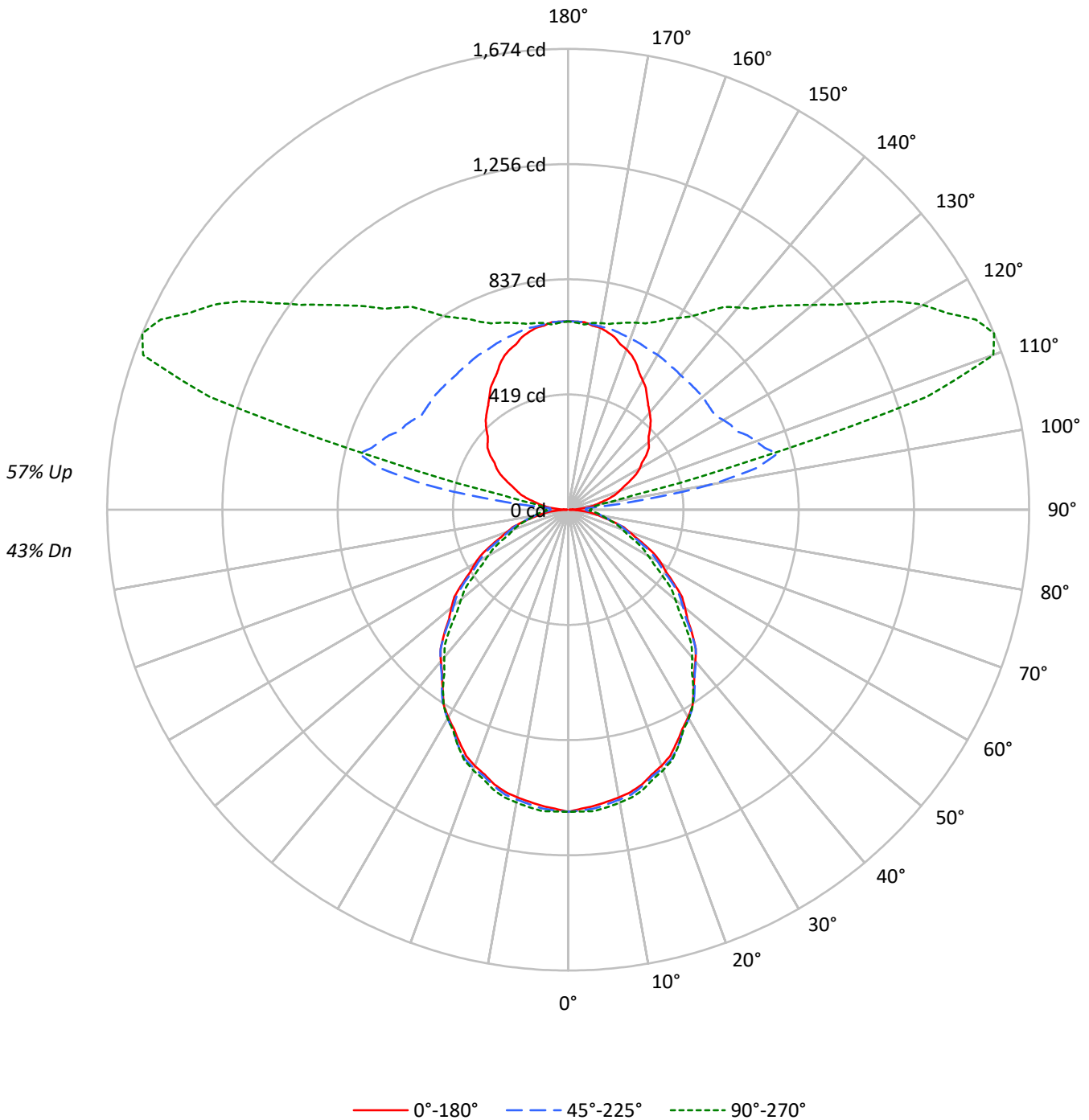
Lumens per Lamp: N/A
Luminaire Lumens: 6503.7 lumens
Efficiency: N/A
Efficacy: 128.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: General Diffuse

Input Watts (W): 50.8
Input Voltage (V): 120
Input Current (A_{in}): 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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49	43																				
1	96	92	88	84	88	84	80	77	69	67	65	56	54	53	43	42	41	36																				
2	87	80	74	69	80	73	68	64	61	57	54	49	46	44	38	36	35	30																				
3	80	70	63	57	73	65	58	53	54	49	45	43	40	37	34	32	30	25																				
4	73	62	55	49	66	57	50	45	48	43	39	39	35	32	30	28	26	22																				
5	67	56	48	42	61	51	44	39	43	37	33	35	31	28	27	25	22	19																				
6	62	50	42	36	56	46	39	34	38	33	29	31	27	24	25	22	20	17																				
7	57	45	37	32	52	41	34	30	35	29	26	29	25	22	23	20	18	15																				
8	53	41	33	28	48	38	31	26	32	26	23	26	22	19	21	18	16	13																				
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12																				
10	46	34	27	22	42	32	25	21	27	22	18	22	18	16	18	15	13	11																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17715	17715	17715
5°	17379	15641	15155
10°	17151	13916	13091
15°	16900	12462	11451
20°	16513	11179	10016
25°	15998	9983	8729
30°	15491	8822	7576
35°	14806	7758	6503
40°	14166	6792	5513
45°	13424	5838	4600
50°	12640	4944	3774
55°	11813	4160	3043
60°	11019	3410	2433
65°	10044	2719	1925
70°	9108	2131	1521
75°	7966	1637	1199
80°	6655	1217	934
85°	4848	885	710

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13424 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.6	1.6
10°-20°	293.9	4.5
20°-30°	433.8	6.7
30°-40°	498.8	7.7
40°-50°	483.8	7.4
50°-60°	405.0	6.2
60°-70°	291.8	4.5
70°-80°	178.3	2.7
80°-90°	88.2	1.4
90°-100°	118.4	1.8
100°-110°	611.6	9.4
110°-120°	817.8	12.6
120°-130°	663.8	10.2
130°-140°	532.7	8.2
140°-150°	419.8	6.5
150°-160°	306.9	4.7
160°-170°	190.7	2.9
170°-180°	65.0	1.0
0°-30°	831.2	12.8
0°-40°	1330.0	20.4
0°-60°	2218.8	34.1
0°-90°	2777.1	42.7
90°-120°	1547.7	23.8
90°-150°	3164.0	48.6
90°-180°	3727.0	57.3
0°-180°	6503.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1097	1097	1097	1097	1097	
5°	1080	1100	1089	1091	1099	102
15°	1034	1049	1040	1045	1052	291
25°	933	948	945	941	947	430
35°	795	807	800	792	792	498
45°	637	643	632	614	604	491
55°	470	476	459	430	417	421
65°	310	312	296	274	266	308
75°	167	167	170	166	163	179
85°	51	62	85	91	91	54
90°	5	35	64	78	80	7
95°	50	78	67	82	92	52
105°	149	211	786	1008	675	157
115°	247	292	674	1398	1633	245
125°	346	389	634	1106	1308	307
135°	422	468	637	911	1045	325
145°	499	541	641	793	877	313
155°	585	606	654	719	753	269
165°	650	658	671	688	701	182
175°	684	688	684	680	675	65
180°	684	684	684	684	684	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1097.2	1097.2	1097.2	1097.2	1097.2
2.5°	1087.3	1103.0	1093.5	1096.0	1097.2
5°	1080.1	1099.8	1089.4	1091.1	1098.7
7.5°	1070.2	1088.4	1079.2	1081.3	1090.0
10°	1061.5	1079.7	1069.3	1072.6	1080.1
12.5°	1050.4	1067.3	1059.4	1062.6	1070.2
15°	1033.6	1048.8	1039.8	1044.7	1052.2
17.5°	1008.8	1025.2	1015.7	1018.3	1025.9
20°	990.2	1005.4	999.5	999.7	1007.3
22.5°	967.9	984.3	979.7	976.2	985.0
25°	932.9	948.1	945.3	940.8	946.9
27.5°	898.2	909.4	904.1	899.5	904.1
30°	870.9	884.6	875.6	871.0	875.6
32.5°	841.2	854.8	845.8	840.0	842.1
35°	795.0	807.1	799.6	791.9	791.9
37.5°	751.3	759.2	754.1	741.0	737.6
40°	719.1	728.1	720.6	705.0	700.5
42.5°	685.6	694.7	685.9	669.0	662.0
45°	636.9	643.0	632.3	613.5	604.4
47.5°	586.7	593.1	578.3	557.6	546.7
50°	553.2	560.8	542.4	520.4	508.3
52.5°	521.0	526.2	508.9	483.3	472.3
55°	469.6	475.6	458.7	430.5	416.9
57.5°	421.5	427.3	407.3	380.4	369.8
60°	390.5	395.1	375.0	346.9	336.3
62.5°	355.8	360.4	341.6	317.1	306.5
65°	309.9	311.5	296.0	274.1	266.5
67.5°	266.9	266.9	253.8	237.6	231.5
70°	237.1	237.1	227.8	215.3	209.2
72.5°	209.8	208.6	203.0	194.2	189.4
75°	167.4	167.4	170.5	165.7	162.7
77.5°	130.2	127.7	141.0	140.4	138.9
80°	105.4	105.4	122.4	125.5	124.0
82.5°	83.1	85.5	107.5	111.9	110.3
85°	51.1	61.7	85.2	91.4	91.4
87.5°	23.2	42.6	68.7	77.6	77.9
90°	4.6	34.6	64.4	78.0	79.5
92.5°	19.9	37.8	64.8	82.0	88.1
95°	49.9	77.8	67.0	82.3	92.3
97.5°	79.7	131.7	276.5	107.2	98.9
100°	100.3	161.2	526.1	175.8	128.4
102.5°	119.7	184.0	700.1	415.7	239.2
105°	148.8	211.2	786.2	1008.5	675.1
107.5°	177.9	223.0	747.6	1456.1	1365.9
110°	197.3	240.2	725.7	1527.1	1642.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	218.0	260.9	705.0	1481.7	1674.1
115°	247.4	291.8	674.1	1397.7	1633.2
117.5°	277.4	322.8	666.0	1305.7	1547.9
120°	300.2	343.5	651.0	1235.9	1488.2
122.5°	317.4	362.8	633.8	1176.9	1409.0
125°	346.0	389.2	633.8	1105.7	1307.5
127.5°	369.1	415.0	634.7	1023.0	1222.4
130°	381.6	432.1	638.1	967.7	1157.0
132.5°	396.3	446.8	636.9	942.9	1098.5
135°	421.5	467.8	636.6	910.6	1045.2
137.5°	443.0	492.6	636.6	874.9	990.1
140°	460.2	506.5	636.6	854.0	959.1
142.5°	477.4	520.3	640.0	829.8	928.2
145°	498.9	541.0	640.9	793.3	877.4
147.5°	524.7	561.7	646.0	767.1	831.8
150°	541.9	575.6	649.5	749.6	804.3
152.5°	559.1	589.4	649.5	735.6	780.2
155°	585.0	606.0	653.8	719.0	752.7
157.5°	605.6	625.8	658.9	708.5	732.9
160°	619.4	636.2	662.4	701.6	722.6
162.5°	629.7	646.5	665.8	698.0	712.3
165°	649.5	657.9	671.0	688.5	701.1
167.5°	660.7	668.2	675.3	684.0	691.6
170°	671.0	675.2	675.3	684.0	688.2
172.5°	674.4	682.0	678.7	680.5	684.7
175°	683.9	688.1	683.9	679.5	675.3
177.5°	683.9	687.2	683.9	683.8	680.4
180°	683.9	683.9	683.9	683.9	683.9

(END OF REPORT)