

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: P644422

Luminaire Tested: CRQ4DIP-SR4F0-75D150U940-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644422
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-SR4F0-75D150U940-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, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

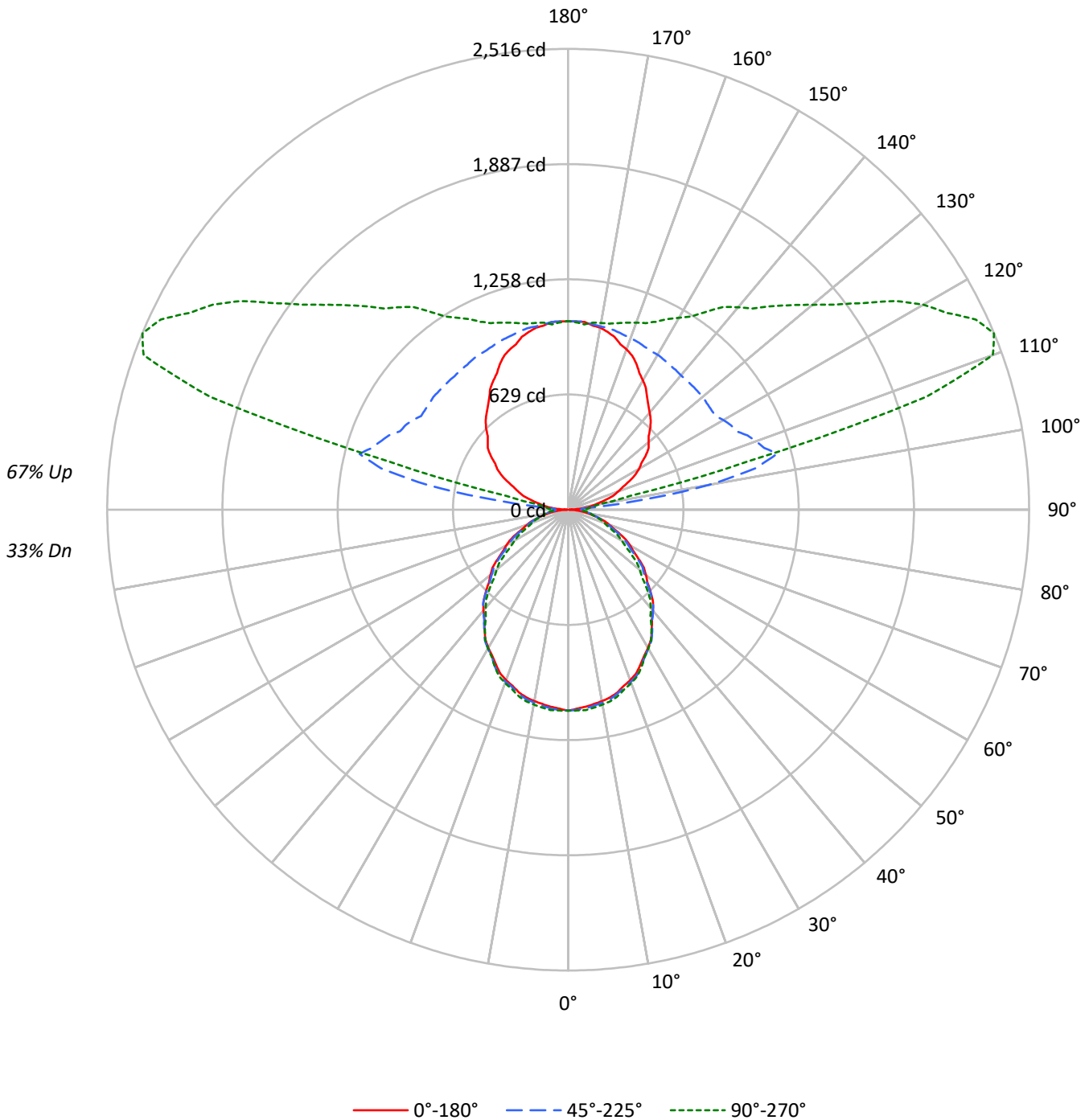
Lumens per Lamp: N/A
Luminaire Lumens: 8356.8 lumens
Efficiency: N/A
Efficacy: 118.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: Semi-Indirect

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									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°	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	1.2
10°-20°	293.9	3.5
20°-30°	433.8	5.2
30°-40°	498.8	6.0
40°-50°	483.8	5.8
50°-60°	405.0	4.8
60°-70°	291.8	3.5
70°-80°	178.3	2.1
80°-90°	88.9	1.1
90°-100°	160.8	1.9
100°-110°	913.7	10.9
110°-120°	1227.9	14.7
120°-130°	997.7	11.9
130°-140°	801.2	9.6
140°-150°	631.5	7.6
150°-160°	461.7	5.5
160°-170°	286.8	3.4
170°-180°	97.8	1.2
0°-30°	831.2	9.9
0°-40°	1330.0	15.9
0°-60°	2218.8	26.6
0°-90°	2777.9	33.2
90°-120°	2302.3	27.6
90°-150°	4732.6	56.6
90°-180°	5579.0	66.8
0°-180°	8356.8	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	37	69	84	86	8
95°	67	110	84	102	116	71
105°	216	314	1179	1510	1007	228
115°	367	436	1012	2101	2455	364
125°	517	584	953	1663	1967	459
135°	634	704	958	1370	1572	488
145°	750	814	964	1193	1320	471
155°	880	912	983	1082	1132	404
165°	977	990	1009	1036	1055	274
175°	1029	1035	1029	1022	1016	97
180°	1029	1029	1029	1029	1029	



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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	43.0	69.5	78.9	79.2
90°	4.6	36.7	68.7	84.5	86.0
92.5°	25.1	45.1	74.3	95.5	103.2
95°	67.3	110.0	84.3	101.9	116.1
97.5°	110.5	193.4	404.0	144.8	131.4
100°	141.5	238.5	782.0	251.1	178.2
102.5°	171.3	273.3	1046.2	614.4	348.0
105°	216.1	314.5	1178.8	1510.0	1006.9
107.5°	260.8	333.0	1122.3	2185.9	2049.5
110°	290.6	358.9	1090.0	2293.9	2466.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	321.7	390.0	1059.0	2226.8	2515.5
115°	366.7	436.5	1012.4	2100.9	2455.1
117.5°	412.7	483.1	1000.4	1963.4	2327.8
120°	447.7	514.2	978.5	1859.0	2238.5
122.5°	473.6	544.0	952.6	1770.3	2119.5
125°	517.3	583.9	952.6	1663.2	1966.8
127.5°	553.0	622.6	953.9	1538.9	1838.7
130°	572.4	648.4	959.1	1455.7	1740.4
132.5°	595.8	671.8	957.8	1418.3	1652.4
135°	634.0	703.6	957.5	1369.7	1572.2
137.5°	666.4	741.0	957.5	1316.0	1489.3
140°	692.3	761.9	957.5	1284.6	1442.8
142.5°	718.1	782.7	962.7	1248.1	1396.2
145°	750.5	813.8	964.0	1193.3	1319.8
147.5°	789.3	845.0	971.8	1153.8	1251.3
150°	815.2	865.8	976.9	1127.6	1209.8
152.5°	841.1	886.6	976.9	1106.6	1173.6
155°	879.9	911.5	983.4	1081.6	1132.2
157.5°	910.9	941.3	991.2	1065.8	1102.4
160°	931.6	957.0	996.3	1055.3	1086.9
162.5°	947.2	972.5	1001.5	1049.9	1071.4
165°	976.9	989.6	1009.3	1035.6	1054.6
167.5°	993.8	1005.1	1015.8	1029.0	1040.3
170°	1009.3	1015.6	1015.8	1028.8	1035.2
172.5°	1014.5	1025.8	1020.9	1023.7	1030.0
175°	1028.7	1035.0	1028.7	1022.1	1015.8
177.5°	1028.7	1033.8	1028.7	1028.6	1023.5
180°	1028.7	1028.7	1028.7	1028.7	1028.7

(END OF REPORT)