

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: P914698

Luminaire Tested: DFN2DIP-SQ3F0-080D110US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914698
REPORT IS A COMBINATION OF REPORTS P899996 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-080D110US927-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

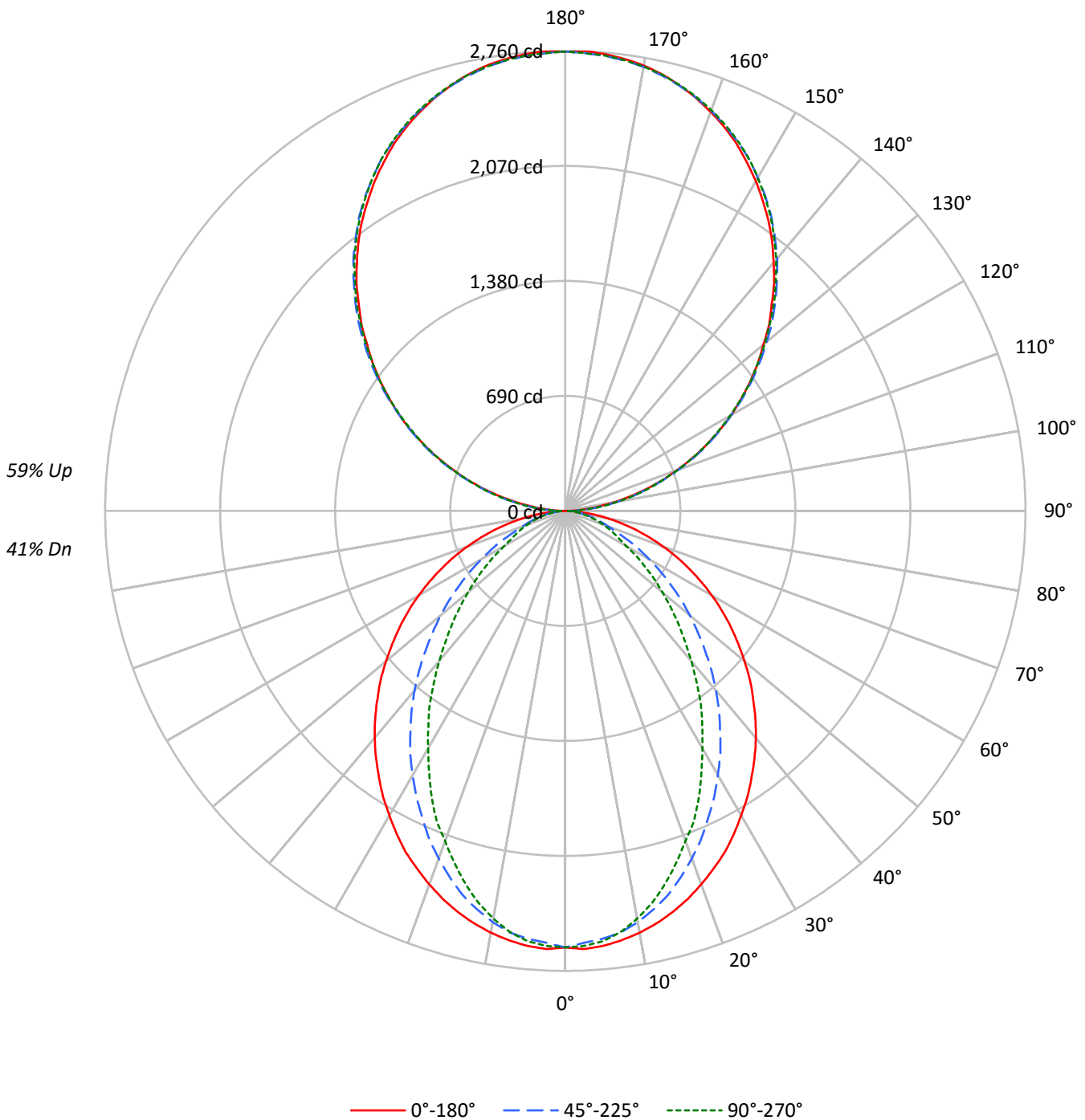
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13098.7 lumens
Efficiency: N/A
Efficacy: 80.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 162.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
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	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48	41	41	41	41
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	35	35	35	35
2	88	81	75	70	80	74	69	65	61	58	55	49	47	45	38	37	35	30	30	30	30
3	80	71	64	59	73	65	59	55	54	50	46	44	41	38	34	32	31	26	26	26	26
4	74	63	56	50	67	58	52	47	48	44	40	39	36	33	31	29	27	23	23	23	23
5	68	57	49	43	62	52	45	40	43	38	34	36	32	29	28	26	23	20	20	20	20
6	63	51	43	37	57	47	40	35	39	34	30	32	28	25	26	23	21	18	18	18	18
7	58	46	38	33	53	42	36	31	36	31	27	29	26	23	23	21	19	16	16	16	16
8	54	42	34	29	49	39	32	27	33	27	24	27	23	20	22	19	17	14	14	14	14
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15	13	13	13	13
10	47	35	28	23	43	32	26	22	28	23	19	23	19	17	19	16	14	12	12	12	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3001	3001	3001
5°	3004	2952	2971
10°	2972	2892	2874
15°	2930	2794	2723
20°	2874	2661	2539
25°	2816	2511	2361
30°	2740	2358	2136
35°	2665	2194	1938
40°	2588	2024	1712
45°	2500	1836	1506
50°	2408	1646	1306
55°	2312	1444	1113
60°	2200	1232	915
65°	2072	1017	823
70°	1917	817	743
75°	1721	716	674
80°	1438	595	581
85°	976	387	431

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 90°
 Luminance: 2771 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	245.5	1.9
10°-20°	673.9	5.1
20°-30°	946.1	7.2
30°-40°	1031.3	7.9
40°-50°	947.9	7.2
50°-60°	744.4	5.7
60°-70°	484.5	3.7
70°-80°	249.4	1.9
80°-90°	71.5	0.5
90°-100°	170.5	1.3
100°-110°	541.8	4.1
110°-120°	927.3	7.1
120°-130°	1219.5	9.3
130°-140°	1368.8	10.5
140°-150°	1342.3	10.2
150°-160°	1126.0	8.6
160°-170°	746.7	5.7
170°-180°	261.0	2.0
0°-30°	1865.5	14.2
0°-40°	2896.8	22.1
0°-60°	4589.2	35.0
0°-90°	5394.7	41.2
90°-120°	1639.7	12.5
90°-150°	5570.3	42.5
90°-180°	7704.0	58.8
0°-180°	13098.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2619	2619	2619	2619	2619	
5°	2619	2608	2576	2598	2591	248
15°	2491	2465	2385	2340	2316	702
25°	2261	2186	2029	1932	1896	1040
35°	1948	1828	1619	1470	1417	1220
45°	1593	1434	1185	1017	960	1230
55°	1211	1026	770	628	583	1082
65°	818	626	412	332	325	811
75°	436	270	190	173	171	461
85°	102	52	45	45	45	117
90°	2	30	81	76	79	13
95°	121	145	149	149	145	135
105°	500	507	512	516	516	528
115°	931	944	940	937	931	920
125°	1353	1374	1368	1360	1358	1209
135°	1751	1776	1781	1779	1772	1353
145°	2125	2142	2155	2158	2149	1328
155°	2430	2437	2444	2456	2448	1119
165°	2644	2641	2641	2658	2646	746
175°	2751	2744	2739	2756	2742	261
180°	2756	2756	2756	2756	2756	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2619.3	2619.3	2619.3	2619.3	2619.3
2.5°	2631.1	2619.3	2593.1	2617.0	2612.2
5°	2619.3	2607.5	2576.5	2597.9	2590.8
7.5°	2597.9	2583.8	2550.6	2559.9	2548.1
10°	2569.4	2552.9	2505.6	2498.3	2484.2
12.5°	2534.0	2512.6	2448.5	2434.4	2408.2
15°	2491.3	2465.1	2384.6	2339.6	2315.9
17.5°	2441.4	2403.5	2303.9	2251.9	2213.8
20°	2384.6	2337.1	2218.7	2159.6	2107.2
22.5°	2323.0	2268.4	2130.9	2050.4	2014.9
25°	2261.4	2185.5	2029.0	1932.0	1896.2
27.5°	2187.9	2107.2	1934.2	1822.8	1768.2
30°	2109.7	2019.4	1829.9	1709.1	1645.0
32.5°	2033.8	1924.7	1730.5	1588.2	1528.8
35°	1948.5	1827.6	1619.1	1469.7	1417.4
37.5°	1865.5	1735.0	1514.7	1351.0	1291.9
40°	1777.8	1635.7	1405.6	1237.3	1175.7
42.5°	1687.7	1536.1	1296.6	1121.2	1062.0
45°	1592.9	1434.0	1185.3	1016.8	960.0
47.5°	1502.9	1334.7	1078.6	910.1	858.1
50°	1403.3	1235.1	974.3	810.6	761.0
52.5°	1306.0	1128.1	874.6	718.3	673.3
55°	1211.2	1026.3	770.3	628.2	583.2
57.5°	1114.1	924.5	678.0	545.3	507.2
60°	1014.5	824.9	580.7	459.9	422.0
62.5°	917.4	727.8	497.7	384.0	365.2
65°	817.8	625.7	412.4	332.0	324.6
67.5°	723.0	530.9	332.0	291.4	284.5
70°	623.4	438.6	274.9	251.2	241.7
72.5°	528.6	353.1	229.9	211.0	206.2
75°	436.1	270.1	189.6	173.0	170.8
77.5°	343.8	191.9	149.4	139.8	135.1
80°	258.3	137.6	113.7	104.3	104.3
82.5°	180.1	92.5	78.2	73.4	73.4
85°	101.9	52.0	45.0	45.0	45.0
87.5°	37.9	18.9	18.9	16.6	16.6
90°	2.5	29.9	81.4	76.4	78.9
92.5°	51.5	69.8	72.2	74.8	74.8
95°	121.3	144.6	148.7	148.7	144.6
97.5°	201.9	223.5	232.7	232.7	232.7
100°	294.9	314.0	320.7	320.7	318.2
102.5°	393.0	407.1	416.3	418.7	416.3
105°	500.2	506.8	511.8	515.9	515.9
107.5°	606.5	616.5	616.5	618.1	606.5
110°	709.6	722.9	722.9	722.9	716.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	820.9	835.0	832.5	825.8	820.9
115°	930.6	943.8	939.7	937.2	930.6
117.5°	1039.4	1057.6	1046.0	1039.4	1032.8
120°	1149.1	1167.4	1149.1	1149.1	1141.6
122.5°	1248.8	1272.0	1260.4	1253.7	1248.8
125°	1353.4	1374.2	1367.5	1360.1	1357.6
127.5°	1455.6	1481.4	1472.3	1462.3	1455.6
130°	1551.2	1581.1	1576.9	1571.9	1562.8
132.5°	1658.4	1681.6	1683.3	1671.7	1665.0
135°	1750.6	1776.3	1781.3	1778.8	1772.2
137.5°	1853.6	1874.4	1878.5	1876.8	1866.9
140°	1944.2	1964.9	1976.6	1976.6	1967.5
142.5°	2037.3	2058.0	2064.7	2067.1	2058.0
145°	2125.3	2141.9	2155.2	2157.7	2148.6
147.5°	2204.2	2225.0	2235.0	2239.1	2230.0
150°	2285.7	2299.8	2308.9	2316.4	2308.9
152.5°	2357.9	2372.0	2383.7	2392.9	2383.7
155°	2430.3	2436.8	2444.4	2456.0	2448.5
157.5°	2492.5	2497.5	2501.6	2518.3	2506.6
160°	2548.2	2553.2	2555.7	2569.8	2559.9
162.5°	2599.7	2599.7	2602.2	2618.0	2606.4
165°	2643.7	2641.2	2641.2	2657.8	2646.2
167.5°	2683.6	2676.1	2676.1	2692.8	2681.1
170°	2713.5	2706.9	2704.4	2721.0	2706.9
172.5°	2734.3	2727.6	2725.2	2741.8	2727.6
175°	2750.9	2744.3	2739.3	2755.9	2741.8
177.5°	2760.0	2753.4	2748.4	2762.6	2748.4
180°	2755.9	2755.9	2755.9	2755.9	2755.9



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	10.05	10.81	11.08	11.85	13.24	6.01	6.77	7.04	7.81	9.20
	3H	11.71	12.40	12.76	13.44	14.86	7.18	7.87	8.23	8.91	10.33
	4H	12.32	12.96	13.37	14.01	15.43	7.63	8.27	8.68	9.32	10.74
	6H	12.73	13.33	13.80	14.38	15.81	7.94	8.53	9.01	9.59	11.02
	8H	12.85	13.42	13.93	14.49	15.92	8.02	8.59	9.10	9.66	11.09
	12H	12.91	13.45	13.99	14.51	15.96	8.06	8.60	9.14	9.66	11.11
4H	2H	10.05	10.70	11.12	11.75	13.17	6.59	7.24	7.66	8.29	9.71
	3H	11.87	12.41	12.94	13.49	14.92	7.93	8.47	9.00	9.54	10.98
	4H	12.56	13.05	13.64	14.12	15.57	8.47	8.96	9.55	10.03	11.48
	6H	13.07	13.49	14.15	14.58	16.03	8.88	9.30	9.96	10.39	11.84
	8H	13.24	13.63	14.32	14.71	16.18	9.00	9.40	10.09	10.48	11.94
	12H	13.33	13.68	14.43	14.78	16.25	9.06	9.42	10.16	10.51	11.98
8H	4H	12.52	12.91	13.61	14.00	15.46	8.74	9.14	9.83	10.22	11.68
	6H	13.08	13.40	14.19	14.53	15.99	9.25	9.57	10.36	10.70	12.16
	8H	13.29	13.58	14.41	14.68	16.16	9.43	9.72	10.55	10.83	12.31
	12H	13.42	13.67	14.54	14.78	16.30	9.54	9.80	10.66	10.90	12.42
12H	4H	12.47	12.82	13.57	13.92	15.39	8.74	9.10	9.84	10.19	11.66
	6H	13.05	13.34	14.17	14.44	15.93	9.30	9.58	10.41	10.69	12.17
	8H	13.27	13.52	14.38	14.62	16.14	9.50	9.75	10.62	10.85	12.37