

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: P925678

Luminaire Tested: DFN2DIP-SQ3F0-100D100US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925678
REPORT IS A COMBINATION OF REPORTS P899982 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-100D100US950-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

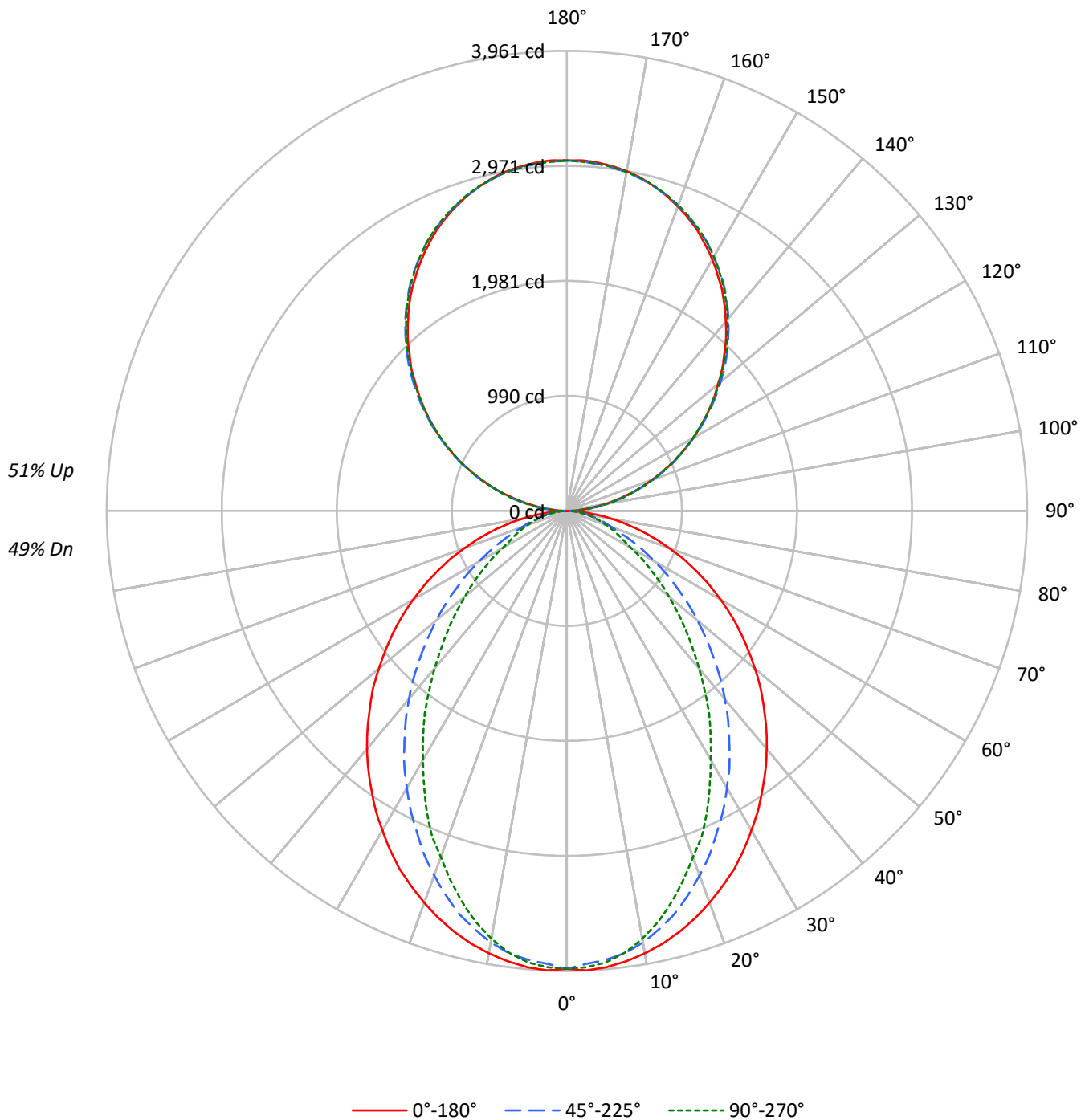
Lumens per Lamp: N/A
Luminaire Lumens: 16551.9 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 176
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
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
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4518	4518	4518
5°	4522	4443	4473
10°	4474	4353	4326
15°	4410	4206	4100
20°	4326	4005	3822
25°	4239	3780	3555
30°	4124	3550	3216
35°	4011	3303	2918
40°	3896	3047	2577
45°	3763	2764	2268
50°	3625	2478	1966
55°	3480	2173	1676
60°	3313	1855	1378
65°	3119	1532	1238
70°	2885	1230	1119
75°	2590	1078	1014
80°	2165	895	875
85°	1468	583	648

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3763 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	369.5	2.2
10°-20°	1014.4	6.1
20°-30°	1424.2	8.6
30°-40°	1552.5	9.4
40°-50°	1426.9	8.6
50°-60°	1120.6	6.8
60°-70°	729.4	4.4
70°-80°	375.5	2.3
80°-90°	104.4	0.6
90°-100°	186.7	1.1
100°-110°	593.2	3.6
110°-120°	1015.2	6.1
120°-130°	1335.1	8.1
130°-140°	1498.6	9.1
140°-150°	1469.5	8.9
150°-160°	1232.7	7.4
160°-170°	817.5	4.9
170°-180°	285.7	1.7
0°-30°	2808.2	17.0
0°-40°	4360.7	26.3
0°-60°	6908.2	41.7
0°-90°	8117.5	49.0
90°-120°	1795.1	10.8
90°-150°	6098.3	36.8
90°-180°	8434.0	51.0
0°-180°	16551.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3943	3943	3943	3943	3943	
5°	3943	3925	3878	3911	3900	374
15°	3750	3711	3590	3522	3486	1057
25°	3404	3290	3054	2908	2854	1566
35°	2933	2751	2437	2212	2134	1836
45°	2398	2159	1784	1531	1445	1852
55°	1823	1545	1160	946	878	1629
65°	1231	942	621	500	489	1221
75°	656	407	285	260	257	694
85°	153	78	68	68	68	176
90°	3	33	89	84	86	16
95°	133	158	163	163	158	148
105°	548	555	560	565	565	578
115°	1019	1033	1029	1026	1019	1008
125°	1482	1504	1497	1489	1486	1324
135°	1916	1945	1950	1948	1940	1481
145°	2327	2345	2360	2362	2352	1454
155°	2661	2668	2676	2689	2680	1225
165°	2894	2892	2892	2910	2897	817
175°	3012	3004	2999	3017	3002	286
180°	3017	3017	3017	3017	3017	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3942.9	3942.9	3942.9	3942.9	3942.9
2.5°	3960.6	3942.9	3903.5	3939.4	3932.3
5°	3942.9	3925.0	3878.5	3910.7	3900.0
7.5°	3910.7	3889.5	3839.5	3853.5	3835.7
10°	3867.9	3842.9	3771.7	3760.8	3739.6
12.5°	3814.6	3782.3	3685.8	3664.6	3625.2
15°	3750.2	3710.8	3589.6	3521.9	3486.3
17.5°	3675.2	3618.0	3468.2	3389.8	3332.6
20°	3589.6	3518.1	3339.8	3250.9	3172.0
22.5°	3496.9	3414.7	3207.6	3086.6	3033.1
25°	3404.2	3289.9	3054.3	2908.2	2854.5
27.5°	3293.6	3172.0	2911.6	2743.9	2661.8
30°	3175.9	3039.9	2754.5	2572.8	2476.3
32.5°	3061.6	2897.2	2605.0	2390.7	2301.3
35°	2933.2	2751.1	2437.3	2212.4	2133.6
37.5°	2808.3	2611.8	2280.2	2033.7	1944.7
40°	2676.2	2462.3	2115.9	1862.6	1769.9
42.5°	2540.6	2312.3	1952.0	1687.7	1598.7
45°	2397.9	2158.6	1784.3	1530.6	1445.0
47.5°	2262.4	2009.1	1623.7	1370.0	1291.7
50°	2112.4	1859.2	1466.6	1220.2	1145.6
52.5°	1965.9	1698.3	1316.7	1081.2	1013.4
55°	1823.2	1545.0	1159.6	945.7	877.9
57.5°	1677.1	1391.6	1020.7	820.7	763.6
60°	1527.2	1241.7	874.2	692.4	635.3
62.5°	1381.0	1095.6	749.2	578.1	549.7
65°	1231.1	941.9	620.9	499.7	488.7
67.5°	1088.4	799.2	499.7	438.7	428.2
70°	938.4	660.3	413.7	378.2	363.9
72.5°	795.7	531.5	346.0	317.6	310.4
75°	656.4	406.6	285.4	260.4	257.0
77.5°	517.5	288.9	224.9	210.5	203.3
80°	388.8	207.1	171.1	157.1	157.1
82.5°	271.0	139.3	117.7	110.6	110.6
85°	153.3	78.3	67.7	67.7	67.7
87.5°	57.1	28.4	28.4	25.0	25.0
90°	2.8	32.7	89.1	83.7	86.4
92.5°	56.4	76.4	79.2	81.9	81.9
95°	132.8	158.3	162.8	162.8	158.3
97.5°	221.0	244.7	254.7	254.7	254.7
100°	322.9	343.8	351.1	351.1	348.4
102.5°	430.3	445.7	455.7	458.4	455.7
105°	547.6	554.8	560.3	564.9	564.9
107.5°	664.0	675.0	675.0	676.8	664.0
110°	776.8	791.3	791.3	791.3	784.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	898.7	914.1	911.5	904.1	898.7
115°	1018.8	1033.3	1028.8	1026.0	1018.8
117.5°	1137.9	1158.0	1145.2	1137.9	1130.6
120°	1257.9	1278.0	1257.9	1257.9	1249.8
122.5°	1367.1	1392.6	1379.9	1372.6	1367.1
125°	1481.8	1504.5	1497.2	1489.0	1486.3
127.5°	1593.7	1621.8	1611.8	1600.9	1593.7
130°	1698.2	1730.9	1726.5	1720.9	1711.0
132.5°	1815.6	1841.0	1842.8	1830.2	1822.8
135°	1916.5	1944.7	1950.2	1947.5	1940.1
137.5°	2029.3	2052.1	2056.6	2054.8	2043.8
140°	2128.5	2151.2	2164.0	2164.0	2153.9
142.5°	2230.4	2253.1	2260.3	2263.1	2253.1
145°	2326.7	2344.9	2359.5	2362.2	2352.2
147.5°	2413.1	2435.9	2446.8	2451.4	2441.4
150°	2502.3	2517.8	2527.8	2535.9	2527.8
152.5°	2581.4	2596.9	2609.7	2619.7	2609.7
155°	2660.6	2667.9	2676.1	2688.8	2680.5
157.5°	2728.8	2734.3	2738.8	2757.0	2744.3
160°	2789.8	2795.2	2797.9	2813.3	2802.5
162.5°	2846.2	2846.2	2848.8	2866.1	2853.4
165°	2894.3	2891.6	2891.6	2909.8	2897.1
167.5°	2938.0	2929.8	2929.8	2948.1	2935.3
170°	2970.8	2963.5	2960.7	2979.0	2963.5
172.5°	2993.5	2986.2	2983.4	3001.7	2986.2
175°	3011.7	3004.4	2999.0	3017.1	3001.7
177.5°	3021.7	3014.4	3008.9	3024.4	3008.9
180°	3017.1	3017.1	3017.1	3017.1	3017.1

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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	12.26	13.08	13.23	14.06	15.35	8.22	9.04	9.19	10.02	11.31
	3H	13.93	14.67	14.92	15.66	16.97	9.40	10.14	10.39	11.13	12.44
	4H	14.54	15.23	15.53	16.23	17.55	9.85	10.54	10.84	11.54	12.86
	6H	14.96	15.60	15.96	16.59	17.92	10.16	10.80	11.17	11.80	13.13
	8H	15.08	15.69	16.09	16.70	18.03	10.25	10.86	11.26	11.87	13.20
	12H	15.14	15.72	16.16	16.73	18.08	10.29	10.87	11.31	11.88	13.23
4H	2H	12.28	12.97	13.28	13.97	15.28	8.81	9.51	9.82	10.50	11.82
	3H	14.10	14.68	15.11	15.70	17.03	10.16	10.73	11.17	11.76	13.09
	4H	14.79	15.32	15.81	16.33	17.69	10.70	11.23	11.72	12.24	13.60
	6H	15.30	15.75	16.33	16.79	18.14	11.11	11.56	12.14	12.60	13.95
	8H	15.47	15.89	16.50	16.93	18.29	11.23	11.66	12.26	12.69	14.06
	12H	15.56	15.94	16.61	16.99	18.36	11.30	11.68	12.34	12.72	14.10
8H	4H	14.75	15.18	15.78	16.21	17.57	10.97	11.40	12.00	12.43	13.80
	6H	15.31	15.66	16.37	16.74	18.10	11.48	11.83	12.54	12.91	14.27
	8H	15.53	15.83	16.59	16.89	18.28	11.67	11.98	12.73	13.04	14.42
	12H	15.66	15.93	16.73	16.99	18.41	11.78	12.05	12.85	13.11	14.53
12H	4H	14.70	15.09	15.75	16.13	17.50	10.98	11.36	12.03	12.41	13.78
	6H	15.29	15.60	16.35	16.65	18.04	11.53	11.84	12.59	12.90	14.28
	8H	15.50	15.78	16.57	16.83	18.25	11.74	12.01	12.80	13.06	14.49