

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: P920226

Luminaire Tested: DFN2DIP-SQ3F0-100D110US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920226
REPORT IS A COMBINATION OF REPORTS P900000 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-100D110US935-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

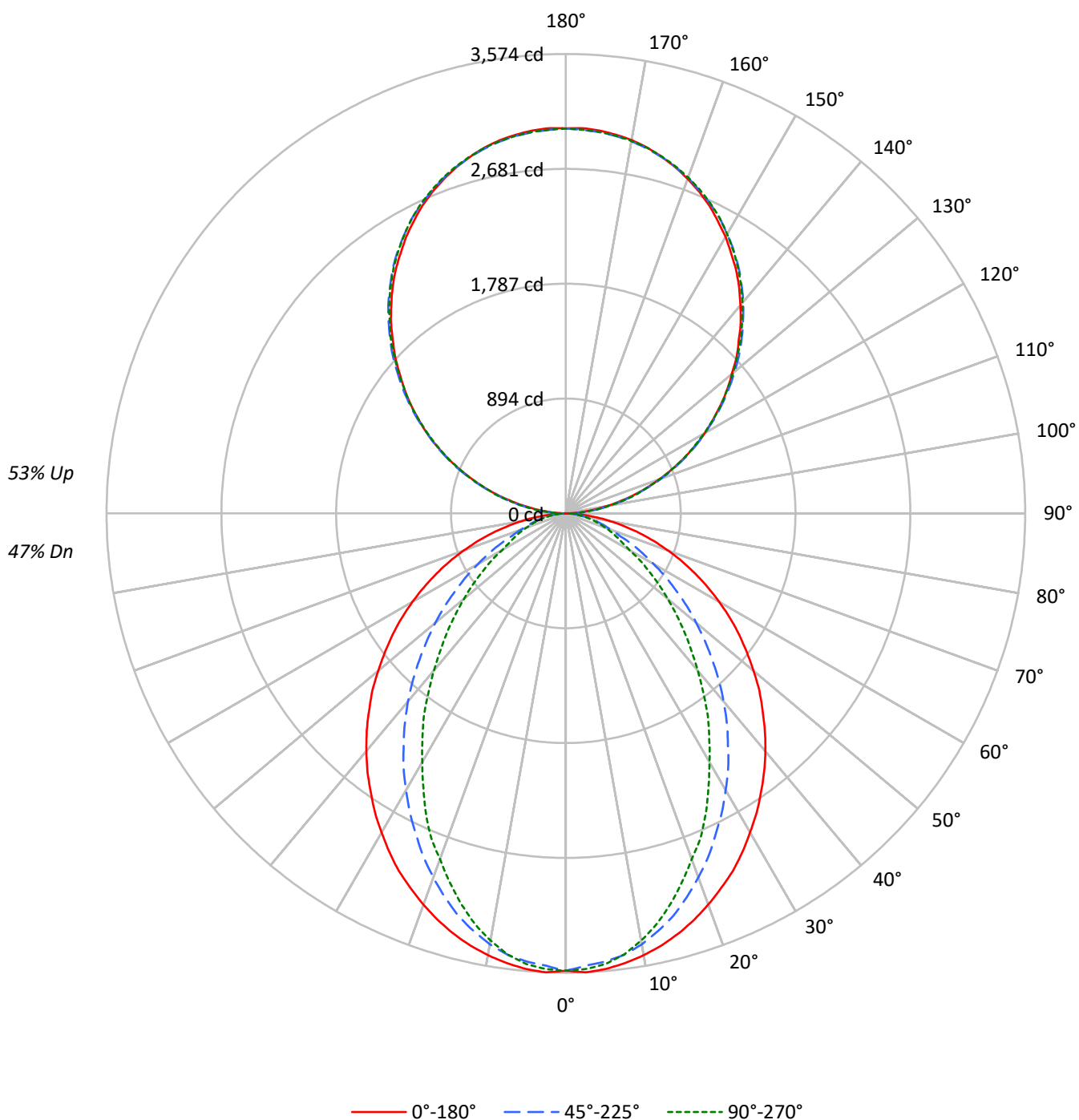
Lumens per Lamp: N/A
Luminaire Lumens: 15700.3 lumens
Efficiency: N/A
Efficacy: 85.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 184.4
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	50	30	10
RCR																				
0	106	106	106	106	98	98	98	98	81	81	81	67	67	67	53	53	53			47
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	48	47	46			40
2	89	82	76	71	82	76	71	66	64	60	57	53	50	48	42	41	39			34
3	82	72	65	60	75	67	61	56	57	52	48	47	44	41	38	36	34			30
4	75	64	57	51	69	60	53	48	51	46	42	42	38	35	34	32	30			26
5	69	58	50	44	63	53	46	41	45	40	36	38	34	31	31	28	26			23
6	64	52	44	38	58	48	41	36	41	36	32	34	30	27	28	25	23			20
7	59	47	39	34	54	44	37	32	37	32	28	32	27	24	26	23	21			18
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19			16
9	51	39	32	27	47	36	30	25	31	26	23	27	23	20	22	19	17			15
10	48	36	29	24	44	34	27	23	29	24	20	25	21	18	21	18	16			14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4077	4077	4077
5°	4081	4010	4037
10°	4038	3929	3904
15°	3980	3796	3700
20°	3904	3615	3450
25°	3826	3412	3208
30°	3722	3204	2902
35°	3620	2981	2633
40°	3516	2750	2325
45°	3396	2494	2047
50°	3271	2236	1774
55°	3141	1961	1512
60°	2990	1674	1244
65°	2815	1382	1118
70°	2604	1110	1010
75°	2338	973	916
80°	1954	808	790
85°	1325	526	585

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3396 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	333.5	2.1
10°-20°	915.5	5.8
20°-30°	1285.4	8.2
30°-40°	1401.2	8.9
40°-50°	1287.8	8.2
50°-60°	1011.4	6.4
60°-70°	658.3	4.2
70°-80°	338.9	2.2
80°-90°	95.0	0.6
90°-100°	185.3	1.2
100°-110°	588.9	3.8
110°-120°	1007.8	6.4
120°-130°	1325.4	8.4
130°-140°	1487.7	9.5
140°-150°	1458.9	9.3
150°-160°	1223.8	7.8
160°-170°	811.6	5.2
170°-180°	283.7	1.8
0°-30°	2534.4	16.1
0°-40°	3935.6	25.1
0°-60°	6234.8	39.7
0°-90°	7327.0	46.7
90°-120°	1782.1	11.4
90°-150°	6054.2	38.6
90°-180°	8373.0	53.3
0°-180°	15700.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3558	3558	3558	3558	3558	
5°	3558	3542	3500	3530	3520	337
15°	3385	3349	3240	3178	3146	954
25°	3072	2969	2757	2625	2576	1413
35°	2647	2483	2200	1997	1926	1657
45°	2164	1948	1610	1381	1304	1671
55°	1646	1394	1046	854	792	1470
65°	1111	850	560	451	441	1102
75°	592	367	258	235	232	627
85°	138	71	61	61	61	159
90°	3	32	88	83	86	15
95°	132	157	162	162	157	147
105°	544	551	556	561	561	574
115°	1011	1026	1021	1019	1011	1000
125°	1471	1494	1486	1478	1476	1315
135°	1903	1931	1936	1933	1926	1471
145°	2310	2328	2342	2345	2335	1443
155°	2641	2648	2657	2669	2661	1216
165°	2873	2871	2871	2889	2876	811
175°	2990	2983	2977	2995	2980	284
180°	2995	2995	2995	2995	2995	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3558.5	3558.5	3558.5	3558.5	3558.5
2.5°	3574.5	3558.5	3522.9	3555.4	3548.9
5°	3558.5	3542.4	3500.4	3529.5	3519.8
7.5°	3529.5	3510.3	3465.2	3477.8	3461.8
10°	3490.8	3468.3	3404.0	3394.1	3375.0
12.5°	3442.7	3413.6	3326.5	3307.4	3271.8
15°	3384.6	3349.0	3239.7	3178.5	3146.4
17.5°	3316.9	3265.3	3130.1	3059.3	3007.7
20°	3239.7	3175.1	3014.2	2933.9	2862.8
22.5°	3156.0	3081.9	2894.9	2785.7	2737.5
25°	3072.3	2969.2	2756.6	2624.7	2576.2
27.5°	2972.5	2862.8	2627.8	2476.4	2402.3
30°	2866.3	2743.6	2486.0	2322.0	2234.9
32.5°	2763.1	2614.8	2351.0	2157.7	2077.0
35°	2647.2	2482.9	2199.7	1996.7	1925.6
37.5°	2534.5	2357.2	2057.9	1835.5	1755.1
40°	2415.3	2222.2	1909.6	1681.0	1597.3
42.5°	2292.9	2086.9	1761.7	1523.2	1442.9
45°	2164.1	1948.2	1610.3	1381.4	1304.2
47.5°	2041.9	1813.3	1465.4	1236.5	1165.8
50°	1906.5	1677.9	1323.6	1101.2	1033.9
52.5°	1774.3	1532.7	1188.3	975.8	914.6
55°	1645.5	1394.4	1046.5	853.5	792.3
57.5°	1513.6	1255.9	921.2	740.7	689.1
60°	1378.3	1120.7	788.9	624.9	573.3
62.5°	1246.4	988.8	676.1	521.8	496.1
65°	1111.1	850.1	560.3	451.0	441.1
67.5°	982.3	721.3	451.0	396.0	386.4
70°	847.0	595.9	373.4	341.3	328.4
72.5°	718.2	479.7	312.3	286.6	280.2
75°	592.5	367.0	257.6	235.1	232.0
77.5°	467.1	260.7	202.9	189.9	183.5
80°	350.9	186.9	154.5	141.8	141.8
82.5°	244.6	125.7	106.2	99.8	99.8
85°	138.4	70.7	61.1	61.1	61.1
87.5°	51.6	25.7	25.7	22.6	22.6
90°	2.7	32.5	88.5	83.1	85.8
92.5°	56.0	75.9	78.5	81.3	81.3
95°	131.8	157.1	161.6	161.6	157.1
97.5°	219.5	242.9	252.9	252.9	252.9
100°	320.5	341.3	348.5	348.5	345.9
102.5°	427.1	442.5	452.5	455.1	452.5
105°	543.6	550.9	556.3	560.8	560.8
107.5°	659.2	670.0	670.0	671.8	659.2
110°	771.2	785.7	785.7	785.7	778.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	892.2	907.5	904.8	897.6	892.2
115°	1011.4	1025.8	1021.3	1018.6	1011.4
117.5°	1129.7	1149.5	1136.9	1129.7	1122.5
120°	1248.9	1268.8	1248.9	1248.9	1240.8
122.5°	1357.3	1382.5	1369.8	1362.6	1357.3
125°	1471.0	1493.6	1486.3	1478.2	1475.5
127.5°	1582.1	1610.1	1600.2	1589.3	1582.1
130°	1685.9	1718.5	1713.9	1708.5	1698.6
132.5°	1802.4	1827.7	1829.5	1816.9	1809.6
135°	1902.6	1930.6	1936.0	1933.4	1926.1
137.5°	2014.6	2037.2	2041.7	2039.9	2029.1
140°	2113.1	2135.6	2148.3	2148.3	2138.4
142.5°	2214.2	2236.8	2244.0	2246.7	2236.8
145°	2309.9	2328.0	2342.4	2345.1	2335.2
147.5°	2395.7	2418.3	2429.1	2433.6	2423.7
150°	2484.2	2499.6	2509.5	2517.6	2509.5
152.5°	2562.8	2578.1	2590.7	2600.7	2590.7
155°	2641.4	2648.5	2656.7	2669.4	2661.2
157.5°	2709.0	2714.5	2718.9	2737.0	2724.4
160°	2769.6	2775.0	2777.7	2793.1	2782.2
162.5°	2825.5	2825.5	2828.3	2845.4	2832.8
165°	2873.4	2870.7	2870.7	2888.7	2876.1
167.5°	2916.7	2908.6	2908.6	2926.7	2914.0
170°	2949.3	2942.0	2939.4	2957.4	2942.0
172.5°	2971.8	2964.6	2961.9	2980.0	2964.6
175°	2989.9	2982.7	2977.2	2995.3	2980.0
177.5°	2999.8	2992.6	2987.1	3002.6	2987.1
180°	2995.3	2995.3	2995.3	2995.3	2995.3

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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	11.67	12.48	12.67	13.48	14.80	7.63	8.44	8.63	9.44	10.76
	3H	13.35	14.06	14.35	15.07	16.41	8.82	9.53	9.82	10.54	11.88
	4H	13.95	14.63	14.97	15.64	16.99	9.26	9.94	10.28	10.95	12.30
	6H	14.37	14.99	15.39	16.01	17.37	9.57	10.20	10.60	11.22	12.58
	8H	14.49	15.08	15.52	16.12	17.48	9.66	10.26	10.69	11.29	12.65
	12H	14.55	15.11	15.58	16.14	17.52	9.70	10.27	10.74	11.29	12.67
4H	2H	11.69	12.37	12.71	13.38	14.73	8.22	8.90	9.25	9.92	11.27
	3H	13.51	14.07	14.54	15.11	16.48	9.56	10.13	10.59	11.17	12.53
	4H	14.20	14.71	15.23	15.75	17.13	10.11	10.62	11.14	11.66	13.04
	6H	14.71	15.15	15.75	16.20	17.59	10.52	10.96	11.56	12.02	13.40
	8H	14.88	15.29	15.93	16.34	17.74	10.64	11.06	11.69	12.10	13.50
	12H	14.97	15.34	16.03	16.41	17.81	10.70	11.08	11.77	12.14	13.54
8H	4H	14.16	14.58	15.21	15.62	17.02	10.38	10.80	11.43	11.84	13.24
	6H	14.72	15.06	15.79	16.15	17.55	10.89	11.23	11.96	12.32	13.72
	8H	14.93	15.23	16.01	16.31	17.72	11.08	11.38	12.16	12.45	13.86
	12H	15.07	15.33	16.15	16.40	17.86	11.19	11.45	12.27	12.52	13.98
12H	4H	14.11	14.49	15.18	15.55	16.95	10.38	10.76	11.45	11.82	13.22
	6H	14.70	15.00	15.77	16.07	17.48	10.94	11.24	12.02	12.31	13.73
	8H	14.91	15.18	15.99	16.24	17.70	11.14	11.41	12.22	12.48	13.93

END OF REPORT