

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: P917411

Luminaire Tested: DFN2DIP-SQ3F0-080D070US930-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P917411
REPORT IS A COMBINATION OF REPORTS P901444 AND P898289
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-080D070US930-RLLONL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

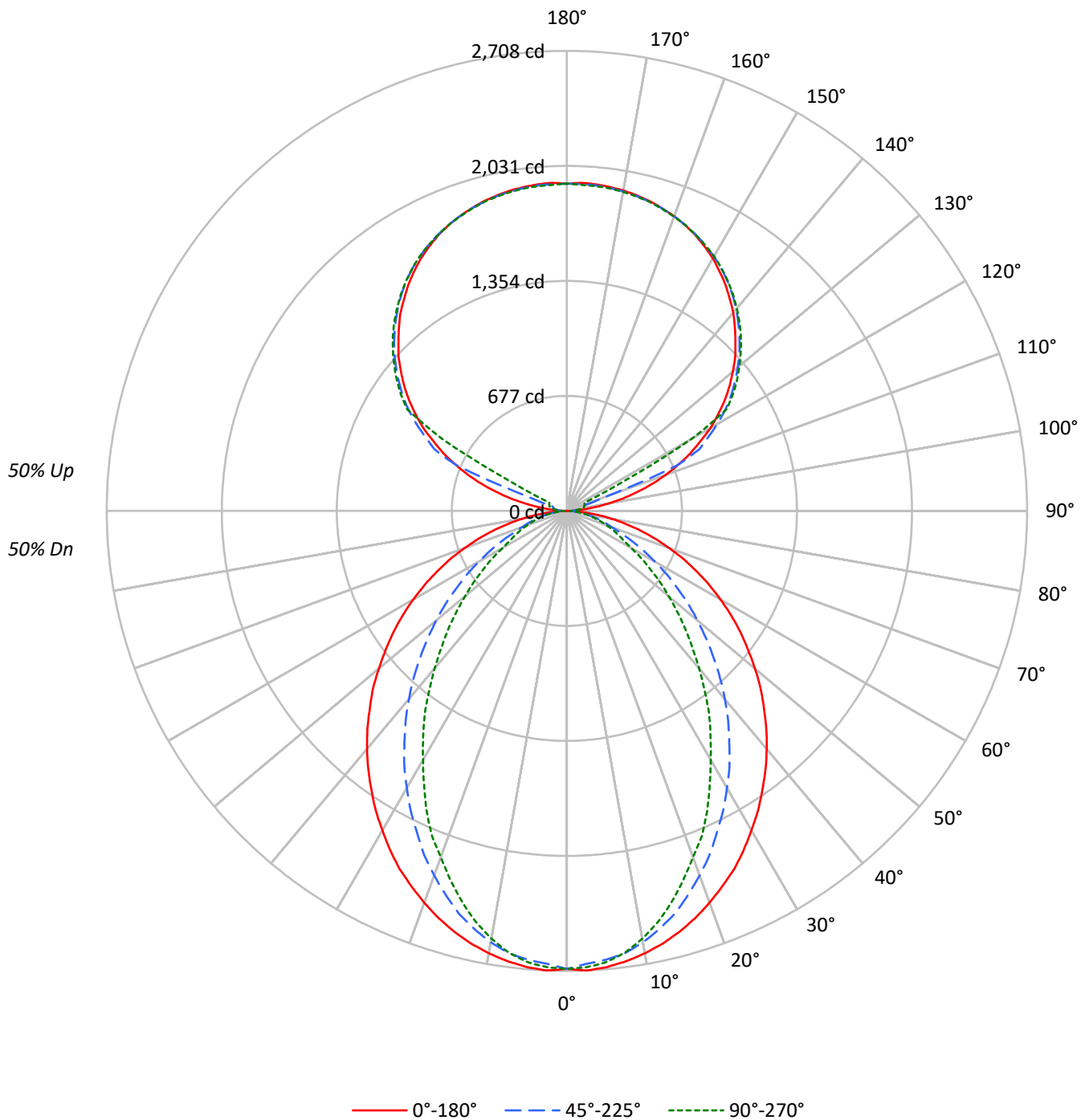
Lumens per Lamp: N/A
Luminaire Lumens: 11194.0 lumens
Efficiency: N/A
Efficacy: 87.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 128.7
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
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	69	69	69	56	56	56
1	98	94	90	87	90	87	84	81	74	71	69	61	60	58	50	49	48
2	90	83	77	72	83	77	71	67	65	61	58	54	52	49	45	43	41
3	82	73	66	60	76	68	62	57	58	53	49	49	45	42	40	38	36
4	75	65	57	52	69	60	54	48	52	47	42	44	40	37	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	33	30	27
6	64	52	44	39	59	49	42	37	42	37	32	36	32	28	30	27	24
7	59	47	40	34	55	44	37	32	38	33	29	33	28	25	27	24	22
8	55	43	36	30	51	40	34	29	35	30	26	30	26	23	25	22	20
9	51	39	32	27	48	37	30	26	32	27	23	28	23	21	23	20	18
10	48	36	29	25	45	34	28	23	30	25	21	26	22	19	22	19	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3089	3089	3089
5°	3092	3038	3058
10°	3059	2976	2958
15°	3015	2876	2803
20°	2957	2738	2613
25°	2898	2584	2430
30°	2820	2427	2199
35°	2742	2258	1995
40°	2664	2083	1762
45°	2573	1889	1550
50°	2478	1694	1344
55°	2379	1486	1146
60°	2265	1268	942
65°	2133	1047	847
70°	1973	841	765
75°	1771	737	694
80°	1480	612	598
85°	1004	399	443

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2573 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.6	2.3
10°-20°	693.6	6.2
20°-30°	973.7	8.7
30°-40°	1061.4	9.5
40°-50°	975.6	8.7
50°-60°	766.2	6.8
60°-70°	498.7	4.5
70°-80°	256.7	2.3
80°-90°	68.9	0.6
90°-100°	63.5	0.6
100°-110°	236.8	2.1
110°-120°	627.9	5.6
120°-130°	1041.5	9.3
130°-140°	1106.3	9.9
140°-150°	1028.1	9.2
150°-160°	826.6	7.4
160°-170°	532.6	4.8
170°-180°	183.3	1.6
0°-30°	1919.9	17.2
0°-40°	2981.4	26.6
0°-60°	4723.1	42.2
0°-90°	5547.4	49.6
90°-120°	928.2	8.3
90°-150°	4104.1	36.7
90°-180°	5647.0	50.4
0°-180°	11194.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2696	2696	2696	2696	2696	
5°	2696	2684	2652	2674	2666	256
15°	2564	2537	2454	2408	2384	722
25°	2327	2249	2088	1988	1952	1070
35°	2005	1881	1666	1513	1459	1255
45°	1639	1476	1220	1046	988	1266
55°	1246	1056	793	646	600	1114
65°	842	644	424	342	334	834
75°	449	278	195	178	176	475
85°	105	54	46	46	46	120
90°	1	17	28	35	38	10
95°	90	44	54	61	60	107
105°	424	466	85	100	106	453
115°	801	825	860	215	114	789
125°	1133	1151	1178	1188	1192	1010
135°	1402	1424	1437	1451	1448	1083
145°	1626	1625	1649	1658	1652	1017
155°	1791	1778	1795	1803	1792	825
165°	1887	1879	1883	1893	1883	533
175°	1930	1920	1923	1933	1919	184
180°	1926	1926	1926	1926	1926	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2695.7	2695.7	2695.7	2695.7	2695.7
2.5°	2707.9	2695.7	2668.8	2693.3	2688.4
5°	2695.7	2683.6	2651.7	2673.7	2666.4
7.5°	2673.7	2659.2	2625.0	2634.6	2622.4
10°	2644.4	2627.4	2578.7	2571.2	2556.7
12.5°	2608.0	2586.0	2519.9	2505.4	2478.5
15°	2563.9	2537.0	2454.2	2407.9	2383.5
17.5°	2512.7	2473.6	2371.1	2317.6	2278.4
20°	2454.2	2405.3	2283.4	2222.6	2168.7
22.5°	2390.8	2334.6	2193.1	2110.2	2073.7
25°	2327.4	2249.2	2088.2	1988.3	1951.6
27.5°	2251.8	2168.7	1990.6	1876.0	1819.8
30°	2171.3	2078.4	1883.3	1759.0	1693.0
32.5°	2093.1	1980.8	1781.0	1634.5	1573.4
35°	2005.4	1880.9	1666.3	1512.6	1458.7
37.5°	1919.9	1785.7	1558.9	1390.4	1329.6
40°	1829.7	1683.4	1446.6	1273.4	1210.0
42.5°	1737.0	1580.9	1334.5	1153.9	1093.0
45°	1639.4	1475.9	1219.8	1046.4	988.0
47.5°	1546.8	1373.6	1110.1	936.7	883.1
50°	1444.2	1271.1	1002.7	834.2	783.2
52.5°	1344.1	1161.1	900.2	739.2	692.9
55°	1246.5	1056.3	792.8	646.5	600.2
57.5°	1146.6	951.5	697.8	561.2	522.0
60°	1044.1	849.0	597.6	473.4	434.3
62.5°	944.2	749.0	512.3	395.3	375.9
65°	841.7	643.9	424.4	341.7	334.1
67.5°	744.1	546.4	341.7	299.9	292.8
70°	641.6	451.4	282.9	258.5	248.7
72.5°	544.0	363.4	236.6	217.2	212.2
75°	448.8	278.0	195.2	178.1	175.8
77.5°	353.8	197.5	153.8	143.9	139.0
80°	265.8	141.6	117.0	107.4	107.4
82.5°	185.3	95.2	80.5	75.6	75.6
85°	104.8	53.6	46.3	46.3	46.3
87.5°	39.1	19.4	19.4	17.1	17.1
90°	1.3	16.7	27.8	34.9	37.6
92.5°	34.9	29.3	33.4	36.3	37.6
95°	90.5	44.5	54.3	61.4	59.9
97.5°	163.0	48.8	71.0	75.3	76.6
100°	246.8	55.8	79.4	90.5	93.4
102.5°	338.6	336.0	82.3	97.5	101.7
105°	423.7	465.5	85.0	100.3	105.9
107.5°	522.6	557.4	87.9	103.1	108.8
110°	617.5	646.6	243.9	104.6	110.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	706.7	731.6	708.0	107.2	111.5
115°	801.4	825.0	859.9	214.7	114.4
117.5°	883.6	911.4	935.2	735.8	370.7
120°	975.6	996.5	1021.7	1038.4	850.2
122.5°	1053.5	1075.9	1103.9	1112.1	1113.6
125°	1133.0	1151.2	1177.7	1187.5	1191.6
127.5°	1205.5	1225.0	1246.0	1260.0	1261.3
130°	1273.8	1296.2	1311.4	1326.8	1325.5
132.5°	1343.5	1361.7	1377.0	1389.5	1388.2
135°	1402.1	1424.4	1436.9	1450.9	1448.1
137.5°	1463.3	1480.1	1494.1	1508.1	1503.9
140°	1523.2	1534.5	1549.7	1562.3	1555.3
142.5°	1573.5	1583.3	1601.3	1612.4	1605.5
145°	1626.5	1625.1	1648.7	1658.5	1651.5
147.5°	1672.3	1668.3	1691.9	1698.8	1693.4
150°	1717.0	1707.3	1729.7	1737.9	1731.0
152.5°	1754.6	1743.5	1764.4	1772.8	1763.1
155°	1790.9	1778.4	1795.1	1803.4	1792.4
157.5°	1820.2	1809.1	1821.6	1831.4	1820.2
160°	1845.3	1836.9	1845.3	1853.6	1843.8
162.5°	1867.5	1859.2	1866.1	1875.9	1863.4
165°	1887.0	1878.8	1882.8	1892.6	1882.8
167.5°	1902.4	1893.9	1898.3	1908.0	1895.5
170°	1915.0	1906.6	1909.3	1919.1	1906.6
172.5°	1923.3	1915.0	1917.8	1927.5	1915.0
175°	1930.2	1920.4	1923.3	1933.0	1919.1
177.5°	1933.0	1923.3	1924.8	1934.5	1921.9
180°	1926.1	1926.1	1926.1	1926.1	1926.1

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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	10.99	11.82	11.96	12.79	14.07	6.95	7.78	7.92	8.75	10.03
	3H	12.66	13.40	13.64	14.39	15.69	8.13	8.87	9.11	9.86	11.16
	4H	13.27	13.97	14.26	14.96	16.27	8.58	9.28	9.57	10.27	11.58
	6H	13.69	14.33	14.69	15.32	16.65	8.89	9.54	9.90	10.53	11.85
	8H	13.81	14.42	14.82	15.43	16.75	8.98	9.59	9.99	10.60	11.92
	12H	13.87	14.45	14.88	15.46	16.80	9.02	9.60	10.03	10.61	11.95
4H	2H	11.01	11.70	12.00	12.69	14.01	7.54	8.24	8.54	9.23	10.54
	3H	12.83	13.41	13.84	14.43	15.75	8.89	9.47	9.89	10.49	11.81
	4H	13.52	14.05	14.53	15.06	16.41	9.43	9.96	10.44	10.97	12.32
	6H	14.03	14.48	15.05	15.52	16.86	9.84	10.30	10.87	11.33	12.68
	8H	14.20	14.63	15.23	15.65	17.01	9.97	10.39	10.99	11.42	12.78
	12H	14.29	14.68	15.34	15.72	17.08	10.03	10.41	11.07	11.45	12.82
8H	4H	13.48	13.91	14.51	14.94	16.30	9.71	10.13	10.73	11.16	12.52
	6H	14.04	14.40	15.09	15.47	16.82	10.21	10.57	11.27	11.64	12.99
	8H	14.26	14.57	15.32	15.62	17.00	10.40	10.71	11.46	11.77	13.14
	12H	14.39	14.66	15.45	15.71	17.13	10.51	10.79	11.58	11.84	13.25
12H	4H	13.44	13.82	14.48	14.86	16.23	9.71	10.09	10.75	11.14	12.50
	6H	14.02	14.33	15.08	15.38	16.76	10.26	10.57	11.32	11.63	13.00
	8H	14.24	14.51	15.30	15.56	16.98	10.47	10.74	11.53	11.79	13.21

END OF REPORT