

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: P918267

Luminaire Tested: DFN2DIP-TR4F0-060D070US930-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P918267
REPORT IS A COMBINATION OF REPORTS P901947 AND P898849
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-060D070US930-FLLONL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

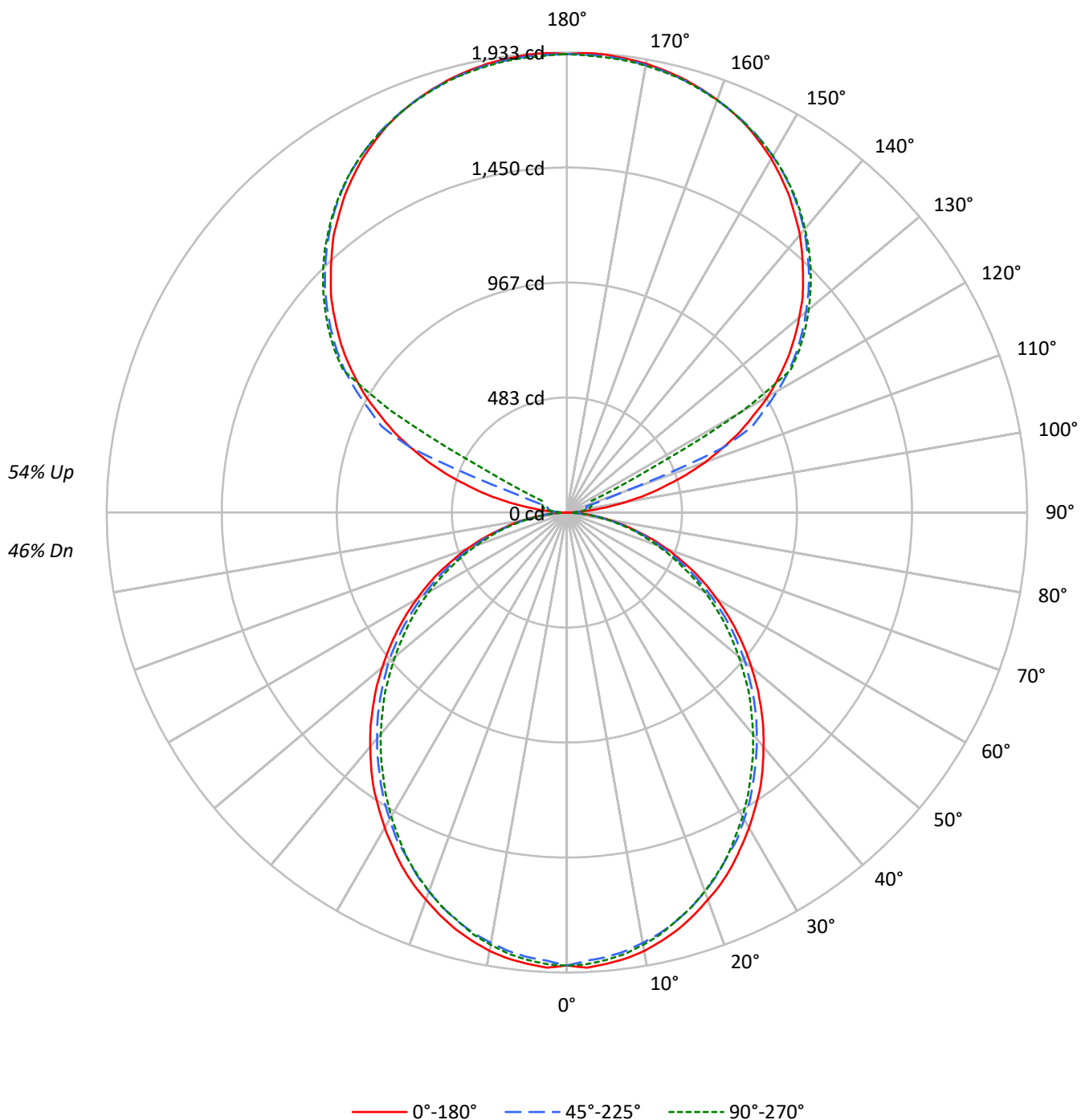
Lumens per Lamp: N/A
Luminaire Lumens: 10492.9 lumens
Efficiency: N/A
Efficacy: 99.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 105.5
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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53
1	97	93	89	85	89	85	82	79	71	69	67	58	57	55	46	45	44
2	88	81	75	70	81	74	69	65	62	59	55	51	48	46	41	39	37
3	81	71	64	58	74	66	59	54	55	50	46	45	42	39	36	34	32
4	74	63	55	49	67	58	51	46	49	44	40	40	37	33	32	30	27
5	68	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24
6	62	50	42	36	57	46	39	34	39	34	30	33	29	25	26	23	21
7	58	45	37	32	53	42	35	30	36	30	26	30	26	22	24	21	19
8	53	41	33	28	49	38	31	26	33	27	23	27	23	20	22	19	17
9	50	38	30	25	46	35	28	24	30	24	21	25	21	18	21	17	15
10	46	34	27	22	43	32	26	21	27	22	19	23	19	16	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1512	1512	1512
5°	1515	1491	1501
10°	1502	1471	1481
15°	1480	1447	1449
20°	1450	1413	1416
25°	1421	1373	1379
30°	1384	1335	1331
35°	1348	1291	1280
40°	1305	1247	1232
45°	1262	1202	1183
50°	1214	1155	1126
55°	1165	1101	1073
60°	1109	1036	1013
65°	1048	969	942
70°	970	888	866
75°	862	791	796
80°	733	666	661
85°	530	452	438

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1262 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.1	1.7
10°-20°	504.1	4.8
20°-30°	740.8	7.1
30°-40°	860.4	8.2
40°-50°	859.3	8.2
50°-60°	749.3	7.1
60°-70°	553.9	5.3
70°-80°	313.4	3.0
80°-90°	86.1	0.8
90°-100°	63.5	0.6
100°-110°	236.8	2.3
110°-120°	627.9	6.0
120°-130°	1041.5	9.9
130°-140°	1106.3	10.5
140°-150°	1028.1	9.8
150°-160°	826.6	7.9
160°-170°	532.6	5.1
170°-180°	183.3	1.7
0°-30°	1424.0	13.6
0°-40°	2284.3	21.8
0°-60°	3892.9	37.1
0°-90°	4846.3	46.2
90°-120°	928.2	8.8
90°-150°	4104.1	39.1
90°-180°	5647.0	53.8
0°-180°	10492.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1903	1903	1903	1903	1903	
5°	1903	1896	1876	1891	1887	181
15°	1812	1801	1777	1785	1776	510
25°	1640	1625	1594	1598	1594	755
35°	1415	1397	1367	1356	1347	884
45°	1151	1138	1111	1091	1084	889
55°	871	860	838	816	807	779
65°	588	577	558	542	533	581
75°	307	304	295	284	287	328
85°	75	73	71	66	64	84
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°	1903.4	1903.4	1903.4	1903.4	1903.4
2.5°	1914.5	1905.4	1885.1	1903.4	1899.9
5°	1903.4	1896.2	1876.0	1890.6	1887.1
7.5°	1890.6	1879.8	1859.5	1874.3	1870.6
10°	1870.6	1857.8	1835.8	1850.4	1844.9
12.5°	1843.1	1832.1	1810.2	1819.3	1815.7
15°	1811.9	1801.1	1777.2	1784.6	1775.5
17.5°	1773.5	1762.7	1738.8	1747.8	1738.8
20°	1731.4	1720.5	1694.8	1700.3	1693.1
22.5°	1689.5	1672.9	1649.0	1649.0	1645.4
25°	1639.9	1625.4	1594.2	1597.7	1594.2
27.5°	1584.9	1572.1	1548.4	1543.0	1533.9
30°	1530.2	1515.4	1488.1	1482.6	1475.2
32.5°	1471.5	1460.7	1431.3	1420.2	1412.9
35°	1414.9	1396.6	1367.3	1356.2	1347.0
37.5°	1350.8	1334.2	1305.0	1292.1	1283.0
40°	1284.9	1270.2	1240.9	1224.6	1217.2
42.5°	1220.8	1206.1	1177.0	1158.5	1147.6
45°	1151.4	1138.5	1110.9	1091.0	1083.5
47.5°	1083.5	1070.7	1041.5	1021.2	1010.3
50°	1012.1	1003.0	977.4	951.7	942.6
52.5°	942.6	929.8	906.0	885.9	873.1
55°	871.3	860.2	838.3	816.4	807.2
57.5°	799.9	790.8	766.9	744.9	737.5
60°	728.4	721.2	695.6	675.4	669.9
62.5°	658.8	646.0	627.8	609.5	602.2
65°	587.6	576.6	558.3	541.8	532.6
67.5°	514.4	505.1	488.8	476.0	468.6
70°	446.6	439.3	422.7	409.9	402.8
72.5°	377.1	369.7	360.6	347.8	342.3
75°	307.4	303.9	294.6	283.7	287.4
77.5°	245.2	237.9	234.2	228.8	223.3
80°	183.1	181.2	177.5	172.0	168.4
82.5°	124.5	124.5	122.7	115.4	115.4
85°	74.9	73.2	71.4	65.8	64.1
87.5°	33.0	29.4	25.6	20.2	18.3
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	8.34	9.17	9.33	10.17	11.49	7.91	8.74	8.90	9.74	11.06
	3H	10.00	10.74	11.00	11.75	13.10	9.53	10.27	10.53	11.28	12.62
	4H	10.58	11.29	11.60	12.30	13.65	10.11	10.81	11.12	11.83	13.18
	6H	10.98	11.63	12.00	12.65	14.01	10.51	11.15	11.53	12.17	13.54
	8H	11.09	11.70	12.11	12.74	14.10	10.61	11.23	11.64	12.26	13.62
	12H	11.13	11.72	12.17	12.75	14.13	10.65	11.24	11.69	12.27	13.65
4H	2H	8.80	9.50	9.82	10.52	11.87	8.45	9.16	9.47	10.17	11.52
	3H	10.66	11.25	11.69	12.29	13.66	10.27	10.85	11.30	11.90	13.26
	4H	11.37	11.91	12.41	12.94	14.33	10.97	11.51	12.00	12.54	13.93
	6H	11.89	12.35	12.93	13.41	14.79	11.48	11.94	12.52	13.00	14.38
	8H	12.04	12.47	13.08	13.52	14.92	11.62	12.06	12.67	13.11	14.51
	12H	12.11	12.50	13.17	13.56	14.97	11.69	12.08	12.75	13.14	14.55
8H	4H	11.57	12.00	12.61	13.05	14.45	11.21	11.64	12.25	12.69	14.09
	6H	12.20	12.55	13.27	13.65	15.04	11.83	12.19	12.90	13.28	14.68
	8H	12.42	12.73	13.50	13.81	15.23	12.05	12.36	13.13	13.44	14.86
	12H	12.55	12.82	13.63	13.89	15.35	12.16	12.44	13.24	13.51	14.97
12H	4H	11.55	11.94	12.62	13.01	14.41	11.20	11.59	12.26	12.65	14.06
	6H	12.23	12.54	13.30	13.62	15.03	11.88	12.19	12.95	13.27	14.68
	8H	12.47	12.74	13.55	13.81	15.27	12.11	12.39	13.19	13.46	14.92

END OF REPORT