

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: P918316

Luminaire Tested: DFN2DIP-TR4F0-070D100US930-RLFL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P918316
REPORT IS A COMBINATION OF REPORTS P900484 AND P897293
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-070D100US930-RLLFLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

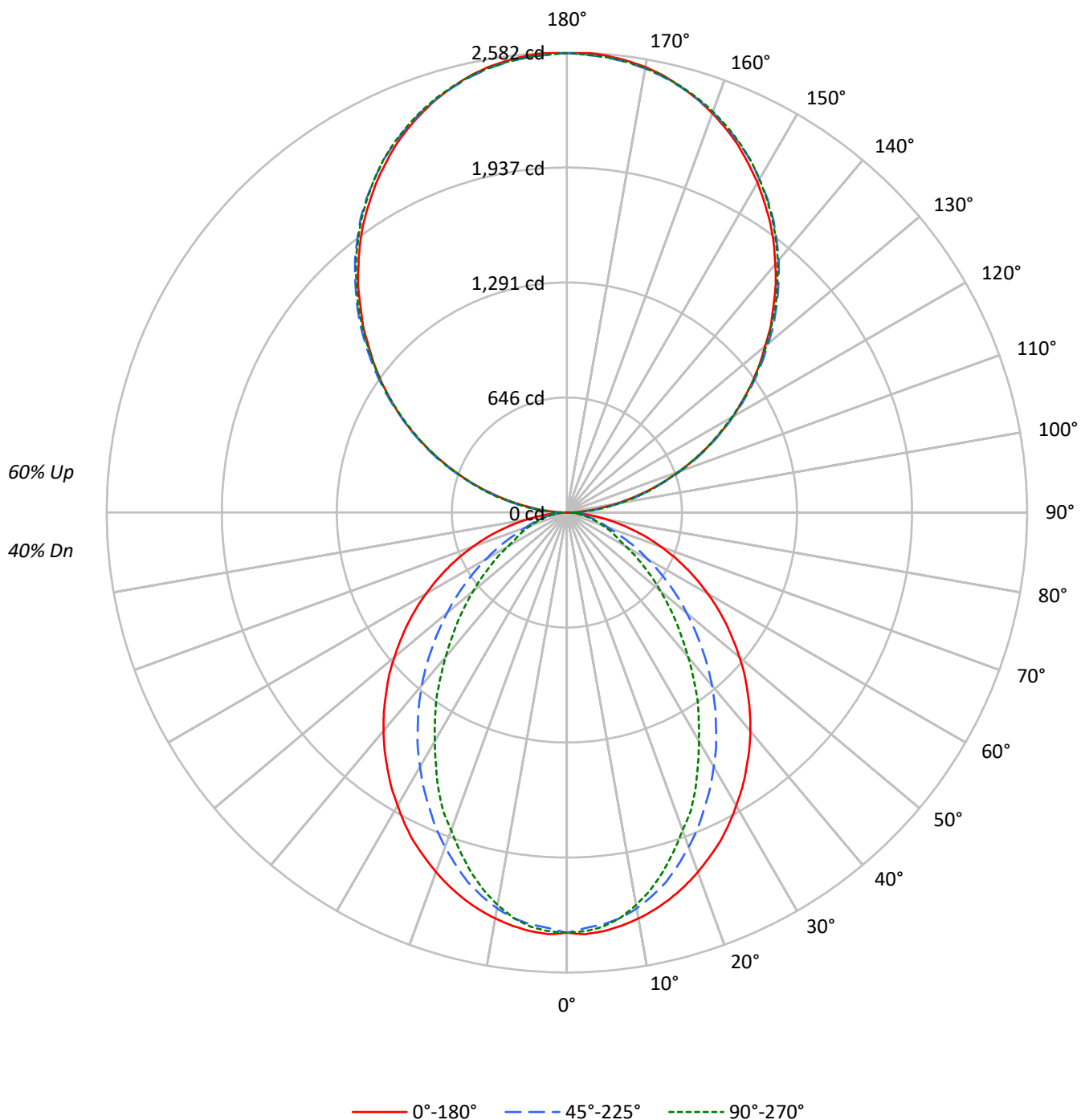
Lumens per Lamp: N/A
Luminaire Lumens: 12066.4 lumens
Efficiency: N/A
Efficacy: 85.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 141.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P918316

CATALOG NUMBER: DFN2DIP-TR4F0-070D100US930-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P918316

CATALOG NUMBER: DFN2DIP-TR4F0-070D100US930-RLLFLL

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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47
1	96	92	88	85	87	84	81	78	69	67	65	55	54	52	42	41	41
2	88	81	75	70	80	74	69	65	61	57	54	49	46	44	38	36	35
3	80	71	64	59	73	65	59	54	54	50	46	43	40	38	34	32	30
4	74	63	56	50	67	58	51	46	48	43	39	39	35	33	30	28	26
5	68	56	49	43	61	52	45	40	43	38	34	35	31	29	28	25	23
6	62	51	43	37	57	47	40	35	39	34	30	32	28	25	25	23	20
7	58	46	38	33	53	42	35	31	35	30	27	29	25	22	23	20	18
8	54	42	34	29	49	38	32	27	32	27	24	27	23	20	21	19	17
9	50	38	31	26	45	35	29	24	30	25	21	25	21	18	20	17	15
10	47	35	28	23	43	32	26	22	27	22	19	23	19	16	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1874	1874	1874
5°	1877	1844	1856
10°	1858	1808	1795
15°	1833	1748	1702
20°	1799	1666	1587
25°	1764	1573	1477
30°	1718	1479	1336
35°	1672	1377	1213
40°	1626	1272	1072
45°	1572	1155	944
50°	1516	1037	819
55°	1458	911	698
60°	1391	779	575
65°	1313	645	517
70°	1219	520	468
75°	1101	458	426
80°	931	384	369
85°	648	256	277

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2011 cd/sqm

TEST NUMBER: P918316

CATALOG NUMBER: DFN2DIP-TR4F0-070D100US930-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.1	1.8
10°-20°	606.9	5.0
20°-30°	852.0	7.1
30°-40°	928.8	7.7
40°-50°	853.6	7.1
50°-60°	670.4	5.6
60°-70°	436.4	3.6
70°-80°	224.6	1.9
80°-90°	64.7	0.5
90°-100°	159.6	1.3
100°-110°	507.0	4.2
110°-120°	867.6	7.2
120°-130°	1141.0	9.5
130°-140°	1280.7	10.6
140°-150°	1255.9	10.4
150°-160°	1053.5	8.7
160°-170°	698.7	5.8
170°-180°	244.2	2.0
0°-30°	1679.9	13.9
0°-40°	2608.7	21.6
0°-60°	4132.7	34.2
0°-90°	4858.3	40.3
90°-120°	1534.1	12.7
90°-150°	5211.7	43.2
90°-180°	7208.0	59.7
0°-180°	12066.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2359	2359	2359	2359	2359	
5°	2359	2348	2320	2340	2333	224
15°	2244	2220	2147	2107	2086	632
25°	2036	1968	1827	1740	1708	937
35°	1755	1646	1458	1324	1276	1098
45°	1434	1291	1067	916	864	1108
55°	1091	924	694	566	525	975
65°	736	564	371	299	292	730
75°	393	243	171	156	154	415
85°	92	47	40	40	40	105
90°	2	28	76	72	74	12
95°	114	135	139	139	135	126
105°	468	474	479	483	483	494
115°	871	883	879	877	871	861
125°	1266	1286	1280	1272	1270	1132
135°	1638	1662	1667	1664	1658	1266
145°	1988	2004	2016	2019	2010	1242
155°	2274	2280	2287	2298	2291	1047
165°	2474	2471	2471	2487	2476	698
175°	2574	2568	2563	2578	2565	245
180°	2578	2578	2578	2578	2578	

TEST NUMBER: P918316

CATALOG NUMBER: DFN2DIP-TR4F0-070D100US930-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2358.7	2358.7	2358.7	2358.7	2358.7
2.5°	2369.3	2358.7	2335.2	2356.7	2352.4
5°	2358.7	2348.1	2320.3	2339.5	2333.1
7.5°	2339.5	2326.8	2296.9	2305.3	2294.7
10°	2313.9	2299.0	2256.3	2249.8	2237.1
12.5°	2281.9	2262.7	2205.0	2192.3	2168.7
15°	2243.5	2219.9	2147.4	2106.9	2085.6
17.5°	2198.6	2164.5	2074.8	2027.8	1993.6
20°	2147.4	2104.6	1998.0	1944.7	1897.6
22.5°	2092.0	2042.8	1918.9	1846.4	1814.5
25°	2036.5	1968.0	1827.2	1739.8	1707.6
27.5°	1970.3	1897.6	1741.8	1641.5	1592.4
30°	1899.9	1818.6	1647.8	1539.1	1481.4
32.5°	1831.5	1733.2	1558.4	1430.2	1376.7
35°	1754.7	1645.8	1458.1	1323.6	1276.4
37.5°	1680.0	1562.4	1364.1	1216.6	1163.4
40°	1600.9	1473.0	1265.8	1114.3	1058.7
42.5°	1519.9	1383.3	1167.7	1009.6	956.4
45°	1434.5	1291.4	1067.4	915.7	864.5
47.5°	1353.4	1201.9	971.3	819.6	772.7
50°	1263.7	1112.2	877.3	729.9	685.3
52.5°	1176.1	1015.9	787.7	646.8	606.3
55°	1090.7	924.2	693.7	565.7	525.2
57.5°	1003.3	832.5	610.6	491.0	456.8
60°	913.6	742.8	522.9	414.3	380.0
62.5°	826.1	655.4	448.2	345.8	328.8
65°	736.5	563.5	371.4	299.0	292.4
67.5°	651.1	478.1	299.0	262.4	256.2
70°	561.4	394.9	247.5	226.2	217.6
72.5°	476.1	318.0	207.0	190.0	185.7
75°	392.7	243.2	170.7	155.8	153.8
77.5°	309.6	172.8	134.5	125.9	121.6
80°	232.6	123.8	102.4	94.0	94.0
82.5°	162.2	83.3	70.4	66.1	66.1
85°	91.7	46.9	40.5	40.5	40.5
87.5°	34.2	17.0	17.0	14.9	14.9
90°	2.4	28.0	76.1	71.5	73.9
92.5°	48.2	65.3	67.7	70.0	70.0
95°	113.5	135.3	139.2	139.2	135.3
97.5°	188.9	209.1	217.7	217.7	217.7
100°	276.0	293.8	300.0	300.0	297.7
102.5°	367.7	380.9	389.5	391.8	389.5
105°	468.0	474.2	478.8	482.7	482.7
107.5°	567.4	576.8	576.8	578.4	567.4
110°	663.9	676.3	676.3	676.3	670.1

TEST NUMBER: P918316

CATALOG NUMBER: DFN2DIP-TR4F0-070D100US930-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	768.0	781.2	778.9	772.7	768.0
115°	870.7	883.0	879.2	876.9	870.7
117.5°	972.5	989.6	978.7	972.5	966.2
120°	1075.1	1092.2	1075.1	1075.1	1068.1
122.5°	1168.3	1190.1	1179.2	1173.1	1168.3
125°	1266.3	1285.7	1279.5	1272.5	1270.2
127.5°	1362.0	1386.0	1377.4	1368.2	1362.0
130°	1451.3	1479.3	1475.4	1470.7	1462.2
132.5°	1551.6	1573.4	1574.9	1564.1	1557.8
135°	1637.9	1662.0	1666.6	1664.3	1658.1
137.5°	1734.3	1753.7	1757.6	1756.1	1746.7
140°	1819.0	1838.4	1849.3	1849.3	1840.8
142.5°	1906.1	1925.5	1931.7	1934.1	1925.5
145°	1988.4	2004.0	2016.5	2018.8	2010.2
147.5°	2062.3	2081.8	2091.1	2095.0	2086.4
150°	2138.5	2151.7	2160.3	2167.2	2160.3
152.5°	2206.1	2219.3	2230.2	2238.8	2230.2
155°	2273.8	2280.0	2287.0	2297.8	2290.8
157.5°	2332.1	2336.7	2340.6	2356.1	2345.3
160°	2384.2	2388.8	2391.1	2404.3	2395.0
162.5°	2432.4	2432.4	2434.6	2449.4	2438.6
165°	2473.5	2471.2	2471.2	2486.7	2475.9
167.5°	2510.9	2503.9	2503.9	2519.4	2508.5
170°	2538.8	2532.6	2530.3	2545.9	2532.6
172.5°	2558.2	2552.0	2549.7	2565.3	2552.0
175°	2573.8	2567.6	2563.0	2578.5	2565.3
177.5°	2582.4	2576.2	2571.5	2584.7	2571.5
180°	2578.5	2578.5	2578.5	2578.5	2578.5

TEST NUMBER: P918316

CATALOG NUMBER: DFN2DIP-TR4F0-070D100US930-RLFL

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	9.10	9.38	10.14	11.55	4.31	5.07	5.36	6.11	7.52
	3H	10.01	10.69	11.06	11.74	13.17	5.50	6.17	6.55	7.23	8.65
	4H	10.62	11.26	11.68	12.31	13.74	5.94	6.59	7.01	7.64	9.07
	6H	11.03	11.62	12.11	12.68	14.13	6.26	6.85	7.34	7.91	9.35
	8H	11.16	11.72	12.24	12.79	14.23	6.35	6.91	7.43	7.99	9.43
	12H	11.22	11.75	12.30	12.82	14.28	6.39	6.93	7.47	7.99	9.46
4H	2H	8.35	8.99	9.42	10.04	11.48	4.90	5.54	5.97	6.59	8.03
	3H	10.17	10.70	11.25	11.79	13.23	6.24	6.78	7.32	7.86	9.30
	4H	10.86	11.35	11.94	12.42	13.89	6.79	7.28	7.87	8.35	9.82
	6H	11.37	11.79	12.46	12.89	14.35	7.21	7.62	8.30	8.72	10.18
	8H	11.54	11.94	12.64	13.02	14.50	7.33	7.72	8.42	8.81	10.29
	12H	11.64	11.99	12.74	13.09	14.57	7.40	7.75	8.50	8.85	10.33
8H	4H	10.82	11.21	11.91	12.30	13.78	7.06	7.45	8.16	8.54	10.02
	6H	11.39	11.71	12.50	12.84	14.31	7.58	7.90	8.69	9.03	10.51
	8H	11.60	11.88	12.72	13.00	14.49	7.77	8.05	8.89	9.17	10.66
	12H	11.74	11.99	12.86	13.09	14.62	7.89	8.14	9.01	9.24	10.78
12H	4H	10.77	11.12	11.88	12.23	13.71	7.07	7.42	8.17	8.52	10.00
	6H	11.36	11.64	12.48	12.76	14.25	7.63	7.91	8.75	9.02	10.52
	8H	11.58	11.83	12.70	12.93	14.47	7.84	8.09	8.96	9.19	10.73