

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: P926261

Luminaire Tested: DFN2DIP-TR3F0-050D090US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P926261
REPORT IS A COMBINATION OF REPORTS P900360 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-050D090US950-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

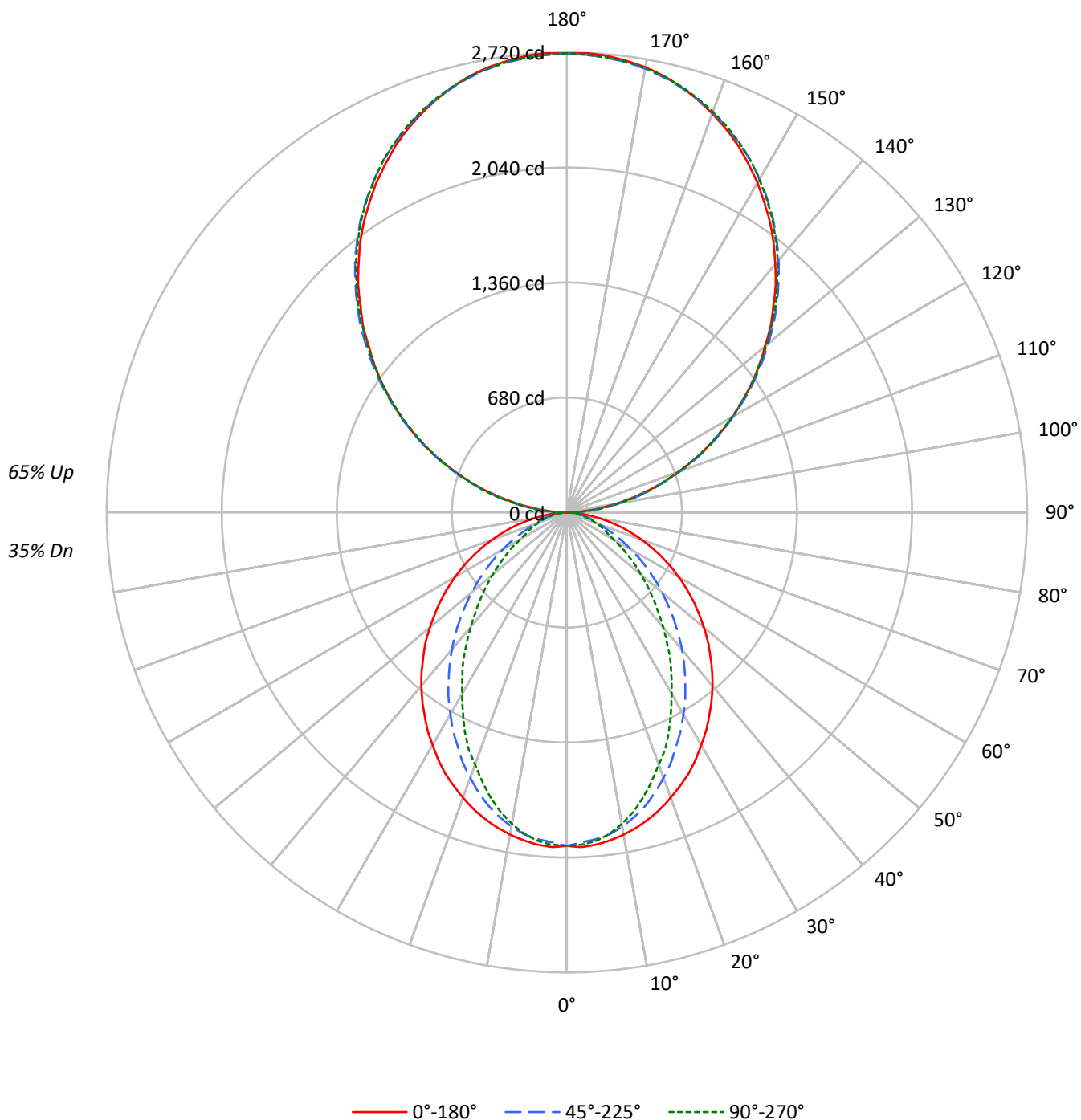
Lumens per Lamp: N/A
Luminaire Lumens: 11653.1 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 116.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P926261

CATALOG NUMBER: DFN2DIP-TR3F0-050D090US950-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P926261

CATALOG NUMBER: DFN2DIP-TR3F0-050D090US950-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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	42	42	42
1	95	91	87	84	85	82	79	76	66	64	62	51	50	49	38	37	36
2	86	79	74	69	78	72	67	63	58	55	52	45	43	41	34	32	31
3	79	70	63	58	71	64	58	53	52	47	44	40	38	35	30	28	27
4	72	62	55	49	65	57	50	45	46	41	38	36	33	30	27	25	23
5	67	55	48	42	60	51	44	39	41	36	33	33	29	26	25	22	21
6	61	50	42	37	55	45	39	34	37	32	29	30	26	23	22	20	18
7	57	45	37	32	51	41	34	30	34	29	25	27	23	21	21	18	16
8	53	41	33	28	48	37	31	26	31	26	22	25	21	19	19	16	15
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	17	15	13
10	46	34	27	23	41	31	25	21	26	21	18	21	18	15	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2457	2457	2457
5°	2459	2416	2432
10°	2433	2366	2351
15°	2399	2286	2227
20°	2353	2176	2076
25°	2306	2054	1929
30°	2244	1928	1745
35°	2183	1793	1582
40°	2120	1654	1397
45°	2048	1500	1228
50°	1973	1344	1064
55°	1895	1178	906
60°	1804	1005	744
65°	1699	829	668
70°	1573	666	602
75°	1414	582	544
80°	1183	482	467
85°	805	312	342

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2652 cd/sqm

TEST NUMBER: P926261

CATALOG NUMBER: DFN2DIP-TR3F0-050D090US950-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.8	1.6
10°-20°	507.2	4.4
20°-30°	712.1	6.1
30°-40°	776.3	6.7
40°-50°	713.5	6.1
50°-60°	560.3	4.8
60°-70°	364.7	3.1
70°-80°	187.7	1.6
80°-90°	55.6	0.5
90°-100°	168.0	1.4
100°-110°	533.9	4.6
110°-120°	913.7	7.8
120°-130°	1201.6	10.3
130°-140°	1348.7	11.6
140°-150°	1322.6	11.3
150°-160°	1109.5	9.5
160°-170°	735.8	6.3
170°-180°	257.2	2.2
0°-30°	1404.1	12.0
0°-40°	2180.4	18.7
0°-60°	3454.1	29.6
0°-90°	4062.2	34.9
90°-120°	1615.6	13.9
90°-150°	5488.5	47.1
90°-180°	7591.0	65.1
0°-180°	11653.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1971	1971	1971	1971	1971	
5°	1971	1963	1939	1955	1950	187
15°	1875	1855	1795	1761	1743	528
25°	1702	1645	1527	1454	1427	783
35°	1467	1376	1219	1106	1067	918
45°	1199	1079	892	765	722	926
55°	912	772	580	473	439	815
65°	616	471	310	250	244	610
75°	328	203	143	130	128	347
85°	77	39	34	34	34	88
90°	2	30	80	75	78	12
95°	120	142	146	146	142	133
105°	493	499	504	508	508	520
115°	917	930	926	924	917	907
125°	1334	1354	1348	1340	1338	1192
135°	1725	1750	1755	1753	1746	1333
145°	2094	2110	2124	2126	2117	1308
155°	2394	2401	2408	2420	2413	1102
165°	2605	2602	2602	2619	2607	735
175°	2710	2704	2699	2716	2702	258
180°	2716	2716	2716	2716	2716	

TEST NUMBER: P926261

CATALOG NUMBER: DFN2DIP-TR3F0-050D090US950-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1971.4	1971.4	1971.4	1971.4	1971.4
2.5°	1980.3	1971.4	1951.8	1969.7	1966.1
5°	1971.4	1962.6	1939.3	1955.3	1950.1
7.5°	1955.3	1944.7	1919.7	1926.8	1917.8
10°	1933.9	1921.5	1885.9	1880.4	1869.7
12.5°	1907.2	1891.2	1842.9	1832.3	1812.6
15°	1875.1	1855.4	1794.9	1761.0	1743.1
17.5°	1837.6	1809.1	1734.1	1694.9	1666.3
20°	1794.9	1759.1	1669.9	1625.4	1586.0
22.5°	1748.5	1707.4	1603.9	1543.3	1516.6
25°	1702.0	1644.9	1527.2	1454.1	1427.2
27.5°	1646.8	1586.0	1455.8	1371.9	1330.9
30°	1587.9	1520.0	1377.3	1286.4	1238.1
32.5°	1530.8	1448.6	1302.5	1195.4	1150.7
35°	1466.6	1375.6	1218.6	1106.2	1066.9
37.5°	1404.1	1305.9	1140.1	1016.9	972.4
40°	1338.1	1231.1	1057.9	931.3	884.9
42.5°	1270.3	1156.2	975.9	843.8	799.4
45°	1199.0	1079.4	892.1	765.3	722.5
47.5°	1131.2	1004.6	811.9	685.1	645.9
50°	1056.3	929.6	733.3	610.1	572.8
52.5°	983.0	849.2	658.4	540.6	506.8
55°	911.6	772.5	579.7	472.8	438.9
57.5°	838.6	695.8	510.3	410.4	381.8
60°	763.6	620.9	437.0	346.2	317.6
62.5°	690.5	547.8	374.6	289.1	274.8
65°	615.5	471.0	310.4	249.9	244.4
67.5°	544.2	399.6	249.9	219.4	214.1
70°	469.3	330.1	206.9	189.1	181.9
72.5°	397.9	265.8	173.1	158.8	155.2
75°	328.3	203.3	142.7	130.2	128.5
77.5°	258.7	144.4	112.5	105.2	101.6
80°	194.4	103.5	85.6	78.5	78.5
82.5°	135.6	69.6	58.9	55.2	55.2
85°	76.7	39.2	33.9	33.9	33.9
87.5°	28.6	14.2	14.2	12.5	12.5
90°	2.5	29.5	80.2	75.3	77.8
92.5°	50.8	68.8	71.3	73.6	73.6
95°	119.5	142.4	146.5	146.5	142.4
97.5°	198.9	220.2	229.2	229.2	229.2
100°	290.6	309.5	316.0	316.0	313.6
102.5°	387.2	401.2	410.1	412.6	410.1
105°	492.8	499.3	504.3	508.4	508.4
107.5°	597.6	607.4	607.4	609.0	597.6
110°	699.1	712.3	712.3	712.3	705.7

TEST NUMBER: P926261

CATALOG NUMBER: DFN2DIP-TR3F0-050D090US950-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	808.8	822.7	820.2	813.8	808.8
115°	916.9	930.0	925.9	923.5	916.9
117.5°	1024.1	1042.1	1030.7	1024.1	1017.5
120°	1132.2	1150.1	1132.2	1132.2	1124.8
122.5°	1230.4	1253.4	1241.9	1235.3	1230.4
125°	1333.6	1354.0	1347.5	1340.1	1337.7
127.5°	1434.2	1459.6	1450.7	1440.8	1434.2
130°	1528.4	1557.9	1553.8	1548.8	1539.9
132.5°	1634.0	1656.9	1658.5	1647.1	1640.6
135°	1724.8	1750.2	1755.2	1752.7	1746.2
137.5°	1826.3	1846.8	1851.0	1849.3	1839.5
140°	1915.6	1936.0	1947.5	1947.5	1938.5
142.5°	2007.3	2027.7	2034.3	2036.8	2027.7
145°	2094.1	2110.4	2123.5	2126.0	2117.0
147.5°	2171.9	2192.3	2202.1	2206.2	2197.3
150°	2252.1	2266.0	2275.0	2282.3	2275.0
152.5°	2323.3	2337.2	2348.7	2357.7	2348.7
155°	2394.5	2401.0	2408.5	2419.9	2412.6
157.5°	2455.9	2460.8	2464.9	2481.3	2469.8
160°	2510.7	2515.7	2518.2	2532.0	2522.2
162.5°	2561.5	2561.5	2564.0	2579.5	2568.1
165°	2604.9	2602.4	2602.4	2618.8	2607.4
167.5°	2644.2	2636.9	2636.9	2653.2	2641.7
170°	2673.7	2667.1	2664.7	2681.0	2667.1
172.5°	2694.1	2687.6	2685.1	2701.5	2687.6
175°	2710.5	2703.9	2699.1	2715.5	2701.5
177.5°	2719.5	2713.0	2708.0	2722.0	2708.0
180°	2715.5	2715.5	2715.5	2715.5	2715.5

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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	8.61	9.33	9.69	10.41	11.88	4.59	5.31	5.67	6.39	7.86
	3H	10.27	10.91	11.36	12.00	13.49	5.76	6.41	6.85	7.49	8.99
	4H	10.87	11.48	11.97	12.57	14.07	6.20	6.81	7.31	7.90	9.40
	6H	11.28	11.84	12.39	12.93	14.44	6.51	7.08	7.62	8.17	9.68
	8H	11.40	11.93	12.51	13.04	14.54	6.60	7.13	7.71	8.24	9.74
	12H	11.45	11.96	12.57	13.06	14.58	6.64	7.14	7.75	8.24	9.77
4H	2H	8.61	9.22	9.72	10.31	11.81	5.16	5.77	6.27	6.86	8.36
	3H	10.42	10.93	11.54	12.05	13.56	6.50	7.01	7.61	8.12	9.63
	4H	11.10	11.57	12.22	12.67	14.21	7.04	7.50	8.16	8.61	10.14
	6H	11.60	12.00	12.73	13.13	14.65	7.44	7.84	8.57	8.97	10.49
	8H	11.77	12.14	12.90	13.26	14.80	7.57	7.94	8.69	9.06	10.60
	12H	11.86	12.19	13.00	13.33	14.87	7.62	7.96	8.77	9.09	10.64
8H	4H	11.06	11.43	12.19	12.55	14.09	7.30	7.68	8.43	8.80	10.33
	6H	11.61	11.92	12.76	13.08	14.62	7.81	8.12	8.96	9.28	10.81
	8H	11.82	12.09	12.98	13.23	14.79	7.99	8.26	9.15	9.41	10.96
	12H	11.95	12.19	13.11	13.33	14.92	8.10	8.34	9.26	9.48	11.07
12H	4H	11.01	11.35	12.15	12.48	14.02	7.30	7.64	8.44	8.77	10.31
	6H	11.59	11.86	12.74	13.00	14.56	7.86	8.12	9.01	9.27	10.82
	8H	11.80	12.03	12.95	13.17	14.76	8.06	8.29	9.21	9.43	11.02

END OF REPORT