

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: P907336

Luminaire Tested: DFN2DIP-TR4F0-050D110US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907336
REPORT IS A COMBINATION OF REPORTS P900498 AND P897293
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-050D110US835-RLLFLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

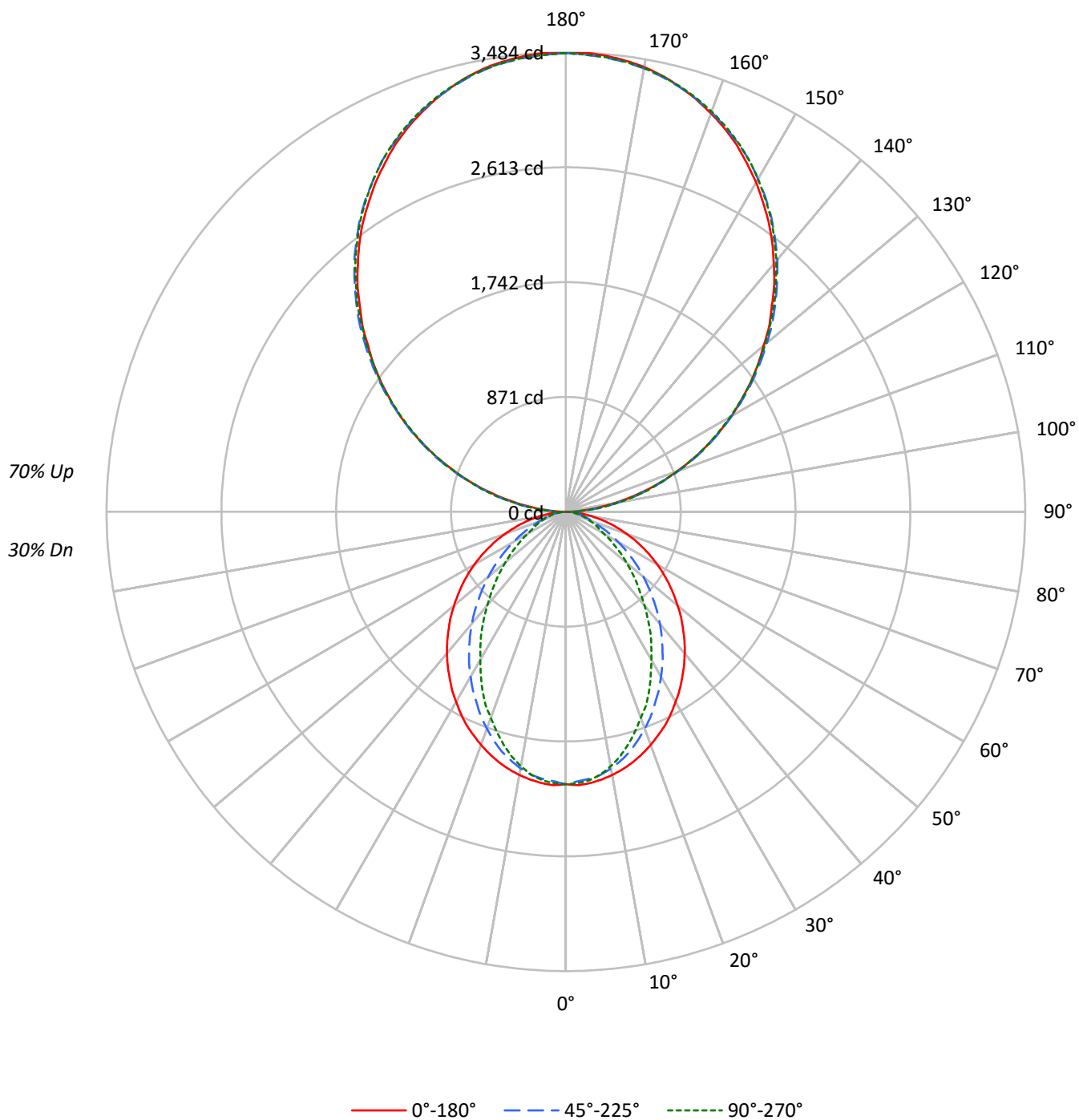
Lumens per Lamp: N/A
Luminaire Lumens: 13985.0 lumens
Efficiency: N/A
Efficacy: 110.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 126.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P907336

CATALOG NUMBER: DFN2DIP-TR4F0-050D110US835-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P907336

CATALOG NUMBER: DFN2DIP-TR4F0-050D110US835-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	102	102	102	102	92	92	92	92	72	72	72	55	55	55	38	38	38
1	94	90	86	83	84	81	78	75	64	62	60	48	47	46	34	33	33
2	86	79	73	68	77	71	66	62	56	53	50	43	41	39	30	29	28
3	78	69	62	57	70	62	57	52	50	46	42	38	35	33	27	26	24
4	72	61	54	48	64	55	49	44	44	40	36	34	31	29	24	23	21
5	66	55	47	41	59	50	43	38	40	35	31	31	27	25	22	20	18
6	60	49	41	36	54	44	38	33	36	31	27	28	24	22	20	18	16
7	56	44	37	31	50	40	34	29	32	28	24	25	22	19	18	16	15
8	52	40	33	28	47	36	30	26	30	25	21	23	20	17	17	15	13
9	48	37	29	25	43	33	27	23	27	22	19	21	18	16	16	14	12
10	45	33	27	22	40	31	24	20	25	20	17	20	16	14	15	12	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1642	1642	1642
5°	1644	1616	1626
10°	1628	1584	1573
15°	1606	1532	1491
20°	1576	1459	1391
25°	1546	1378	1294
30°	1505	1296	1171
35°	1465	1206	1063
40°	1424	1114	939
45°	1377	1012	827
50°	1328	908	717
55°	1277	798	612
60°	1218	682	503
65°	1150	565	453
70°	1068	456	410
75°	965	401	373
80°	815	337	323
85°	569	225	243

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2711 cd/sqm

TEST NUMBER: P907336

CATALOG NUMBER: DFN2DIP-TR4F0-050D110US835-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.7	1.4
10°-20°	531.7	3.8
20°-30°	746.5	5.3
30°-40°	813.7	5.8
40°-50°	747.9	5.3
50°-60°	587.3	4.2
60°-70°	382.3	2.7
70°-80°	196.8	1.4
80°-90°	60.1	0.4
90°-100°	215.3	1.5
100°-110°	684.0	4.9
110°-120°	1170.5	8.4
120°-130°	1539.4	11.0
130°-140°	1727.9	12.4
140°-150°	1694.4	12.1
150°-160°	1421.4	10.2
160°-170°	942.6	6.7
170°-180°	329.5	2.4
0°-30°	1471.8	10.5
0°-40°	2285.5	16.3
0°-60°	3620.7	25.9
0°-90°	4259.9	30.5
90°-120°	2069.8	14.8
90°-150°	7031.6	50.3
90°-180°	9725.0	69.5
0°-180°	13985.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2066	2066	2066	2066	2066	
5°	2066	2057	2033	2050	2044	196
15°	1966	1945	1881	1846	1827	554
25°	1784	1724	1601	1524	1496	821
35°	1537	1442	1277	1160	1118	962
45°	1257	1131	935	802	757	971
55°	956	810	608	496	460	854
65°	645	494	325	262	256	640
75°	344	213	150	136	135	364
85°	80	41	36	36	36	92
90°	3	38	103	96	100	14
95°	153	182	188	188	182	170
105°	631	640	646	651	651	666
115°	1175	1191	1186	1183	1175	1162
125°	1708	1735	1726	1717	1714	1527
135°	2210	2242	2249	2246	2237	1708
145°	2683	2704	2721	2724	2712	1676
155°	3068	3076	3086	3100	3091	1412
165°	3337	3334	3334	3355	3340	941
175°	3473	3464	3458	3479	3461	330
180°	3479	3479	3479	3479	3479	

TEST NUMBER: P907336

CATALOG NUMBER: DFN2DIP-TR4F0-050D110US835-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2066.5	2066.5	2066.5	2066.5	2066.5
2.5°	2075.8	2066.5	2045.9	2064.7	2060.9
5°	2066.5	2057.2	2032.8	2049.6	2044.1
7.5°	2049.6	2038.5	2012.3	2019.7	2010.3
10°	2027.2	2014.1	1976.8	1971.1	1959.9
12.5°	1999.2	1982.4	1931.8	1920.7	1900.0
15°	1965.5	1944.9	1881.4	1845.9	1827.2
17.5°	1926.2	1896.3	1817.7	1776.6	1746.6
20°	1881.4	1843.9	1750.4	1703.8	1662.5
22.5°	1832.8	1789.7	1681.2	1617.7	1589.7
25°	1784.1	1724.2	1600.8	1524.2	1496.0
27.5°	1726.2	1662.5	1526.0	1438.1	1395.1
30°	1664.5	1593.3	1443.7	1348.4	1297.8
32.5°	1604.6	1518.5	1365.3	1253.0	1206.2
35°	1537.3	1441.9	1277.4	1159.5	1118.3
37.5°	1471.8	1368.9	1195.1	1065.9	1019.3
40°	1402.6	1290.5	1108.9	976.2	927.6
42.5°	1331.6	1211.9	1023.0	884.5	837.9
45°	1256.8	1131.4	935.1	802.2	757.3
47.5°	1185.7	1053.0	851.0	718.1	677.0
50°	1107.2	974.4	768.7	639.5	600.4
52.5°	1030.4	890.1	690.1	566.7	531.2
55°	955.6	809.7	607.7	495.6	460.1
57.5°	879.0	729.4	534.9	430.2	400.2
60°	800.4	650.8	458.1	362.9	332.9
62.5°	723.8	574.2	392.7	303.0	288.1
65°	645.2	493.7	325.4	261.9	256.2
67.5°	570.4	418.9	261.9	230.0	224.4
70°	491.9	346.0	216.9	198.2	190.7
72.5°	417.1	278.6	181.4	166.5	162.7
75°	344.1	213.1	149.6	136.5	134.7
77.5°	271.2	151.4	117.9	110.3	106.5
80°	203.8	108.5	89.7	82.3	82.3
82.5°	142.1	73.0	61.7	57.9	57.9
85°	80.4	41.1	35.5	35.5	35.5
87.5°	30.0	14.9	14.9	13.1	13.1
90°	3.1	37.8	102.8	96.5	99.6
92.5°	65.0	88.1	91.2	94.4	94.4
95°	153.1	182.5	187.7	187.7	182.5
97.5°	254.9	282.1	293.7	293.7	293.7
100°	372.3	396.4	404.8	404.8	401.7
102.5°	496.1	513.9	525.5	528.6	525.5
105°	631.4	639.8	646.1	651.3	651.3
107.5°	765.6	778.2	778.2	780.3	765.6
110°	895.7	912.5	912.5	912.5	904.1

TEST NUMBER: P907336

CATALOG NUMBER: DFN2DIP-TR4F0-050D110US835-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1036.2	1054.0	1050.9	1042.5	1036.2
115°	1174.7	1191.4	1186.2	1183.1	1174.7
117.5°	1312.1	1335.1	1320.4	1312.1	1303.7
120°	1450.5	1473.6	1450.5	1450.5	1441.1
122.5°	1576.4	1605.7	1591.0	1582.6	1576.4
125°	1708.5	1734.7	1726.3	1716.9	1713.7
127.5°	1837.5	1870.0	1858.5	1845.9	1837.5
130°	1958.1	1995.9	1990.6	1984.3	1972.8
132.5°	2093.4	2122.8	2124.9	2110.2	2101.8
135°	2209.8	2242.3	2248.6	2245.5	2237.1
137.5°	2339.9	2366.1	2371.3	2369.2	2356.7
140°	2454.2	2480.4	2495.1	2495.1	2483.6
142.5°	2571.7	2597.9	2606.3	2609.4	2597.9
145°	2682.8	2703.8	2720.6	2723.7	2712.2
147.5°	2782.5	2808.7	2821.3	2826.5	2815.0
150°	2885.3	2903.1	2914.6	2924.1	2914.6
152.5°	2976.5	2994.3	3009.0	3020.6	3009.0
155°	3067.8	3076.1	3085.6	3100.3	3090.8
157.5°	3146.4	3152.7	3157.9	3178.9	3164.2
160°	3216.7	3223.0	3226.1	3244.0	3231.4
162.5°	3281.7	3281.7	3284.9	3304.8	3290.1
165°	3337.3	3334.1	3334.1	3355.1	3340.4
167.5°	3387.6	3378.2	3378.2	3399.2	3384.5
170°	3425.4	3417.0	3413.9	3434.8	3417.0
172.5°	3451.6	3443.2	3440.1	3461.1	3443.2
175°	3472.6	3464.2	3457.9	3478.9	3461.1
177.5°	3484.1	3475.7	3469.4	3487.3	3469.4
180°	3478.9	3478.9	3478.9	3478.9	3478.9

TEST NUMBER: P907336

CATALOG NUMBER: DFN2DIP-TR4F0-050D110US835-RLLFLL

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	6.69	7.39	7.81	8.49	10.02	2.67	3.36	3.78	4.46	5.99
	3H	8.36	8.98	9.48	10.09	11.64	3.84	4.46	4.97	5.58	7.12
	4H	8.96	9.55	10.09	10.66	12.21	4.29	4.88	5.42	5.99	7.54
	6H	9.37	9.92	10.51	11.03	12.59	4.60	5.14	5.74	6.26	7.82
	8H	9.50	10.01	10.64	11.14	12.70	4.69	5.20	5.83	6.34	7.89
	12H	9.55	10.04	10.70	11.17	12.74	4.73	5.22	5.88	6.34	7.92
4H	2H	6.69	7.28	7.83	8.39	9.94	3.24	3.83	4.38	4.95	6.49
	3H	8.51	9.00	9.65	10.14	11.70	4.58	5.07	5.73	6.21	7.77
	4H	9.20	9.65	10.34	10.77	12.36	5.13	5.57	6.27	6.70	8.29
	6H	9.70	10.09	10.86	11.24	12.81	5.54	5.92	6.69	7.07	8.65
	8H	9.88	10.24	11.03	11.38	12.97	5.66	6.02	6.82	7.17	8.76
	12H	9.96	10.29	11.13	11.45	13.04	5.72	6.05	6.89	7.20	8.80
8H	4H	9.15	9.51	10.31	10.66	12.25	5.40	5.75	6.55	6.90	8.49
	6H	9.71	10.01	10.89	11.20	12.78	5.91	6.21	7.08	7.39	8.98
	8H	9.93	10.19	11.11	11.35	12.96	6.10	6.36	7.28	7.52	9.13
	12H	10.06	10.29	11.24	11.45	13.09	6.21	6.44	7.40	7.60	9.24
12H	4H	9.10	9.42	10.27	10.58	12.17	5.39	5.72	6.56	6.87	8.47
	6H	9.69	9.95	10.87	11.11	12.72	5.96	6.22	7.14	7.38	8.99
	8H	9.90	10.13	11.09	11.29	12.93	6.16	6.39	7.34	7.55	9.19