

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: P920741

Luminaire Tested: DFN2DIP-TR3F0-030D060US935-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920741
REPORT IS A COMBINATION OF REPORTS P901833 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-030D060US935-FLLONL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

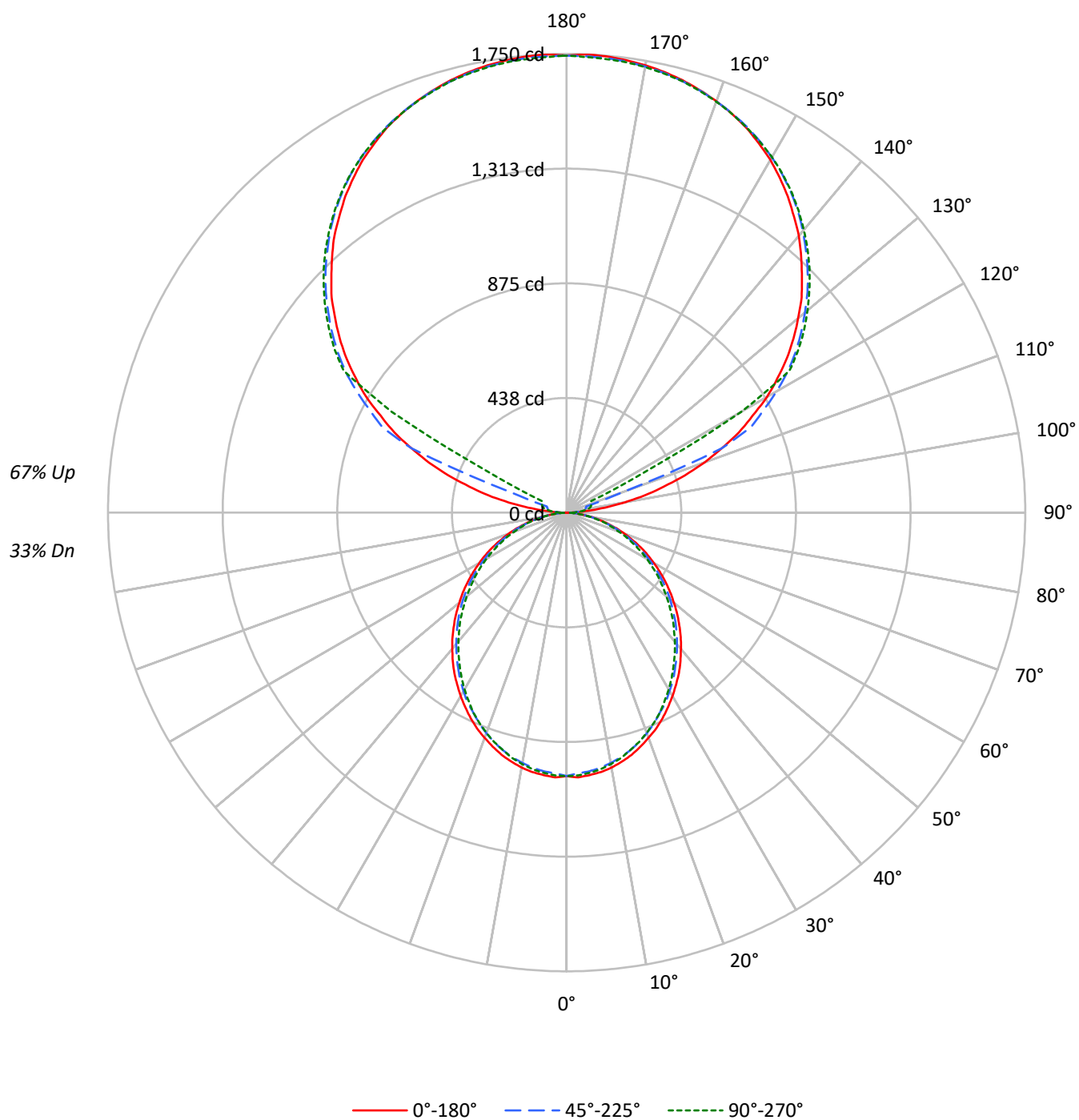
Lumens per Lamp: N/A
Luminaire Lumens: 7671.5 lumens
Efficiency: N/A
Efficacy: 111.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 69.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
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: P920741

CATALOG NUMBER: DFN2DIP-TR3F0-030D060US935-FLLONL

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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41
1	94	90	86	83	85	81	78	75	65	63	61	50	48	47	36	35	34
2	86	78	72	67	77	71	66	62	57	53	50	44	41	39	32	30	29
3	78	69	62	56	70	62	56	51	50	46	42	39	36	33	28	26	25
4	71	61	53	47	64	55	49	43	44	40	36	34	31	28	25	23	21
5	65	54	46	40	59	49	42	37	40	35	31	31	27	25	23	20	18
6	60	48	41	35	54	44	37	32	36	31	27	28	24	21	20	18	16
7	56	44	36	30	50	40	33	28	32	27	23	25	22	19	19	16	14
8	51	39	32	27	46	36	29	25	29	24	21	23	19	17	17	15	13
9	48	36	29	24	43	33	26	22	27	22	19	21	18	15	16	13	12
10	45	33	26	21	40	30	24	20	25	20	17	19	16	14	15	12	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1252	1252	1252
5°	1254	1234	1242
10°	1243	1216	1225
15°	1224	1195	1198
20°	1198	1166	1170
25°	1173	1132	1138
30°	1142	1100	1098
35°	1112	1062	1055
40°	1075	1024	1014
45°	1039	986	973
50°	998	946	925
55°	956	900	880
60°	909	845	829
65°	857	788	769
70°	790	718	704
75°	699	635	643
80°	588	528	528
85°	416	347	341

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1159 cd/sqm

TEST NUMBER: P920741

CATALOG NUMBER: DFN2DIP-TR3F0-030D060US935-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	1.2
10°-20°	266.2	3.5
20°-30°	391.1	5.1
30°-40°	454.3	5.9
40°-50°	453.7	5.9
50°-60°	395.6	5.2
60°-70°	292.5	3.8
70°-80°	165.5	2.2
80°-90°	46.7	0.6
90°-100°	57.5	0.7
100°-110°	214.3	2.8
110°-120°	568.4	7.4
120°-130°	942.7	12.3
130°-140°	1001.4	13.1
140°-150°	930.7	12.1
150°-160°	748.2	9.8
160°-170°	482.1	6.3
170°-180°	165.9	2.2
0°-30°	751.9	9.8
0°-40°	1206.2	15.7
0°-60°	2055.6	26.8
0°-90°	2560.2	33.4
90°-120°	840.2	11.0
90°-150°	3714.9	48.4
90°-180°	5111.0	66.6
0°-180°	7671.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1005	1005	1005	1005	1005	
5°	1005	1001	991	998	996	95
15°	957	951	938	942	938	269
25°	866	858	842	844	842	398
35°	747	737	722	716	711	467
45°	608	601	587	576	572	469
55°	460	454	443	431	426	411
65°	310	304	295	286	281	307
75°	162	160	156	150	152	173
85°	40	39	38	35	34	44
90°	1	15	25	32	34	7
95°	82	40	49	56	54	97
105°	384	421	77	91	96	410
115°	725	747	778	194	104	714
125°	1026	1042	1066	1075	1079	915
135°	1269	1289	1301	1313	1311	980
145°	1472	1471	1492	1501	1495	921
155°	1621	1610	1625	1632	1622	747
165°	1708	1701	1704	1713	1704	483
175°	1747	1738	1741	1750	1737	166
180°	1743	1743	1743	1743	1743	

TEST NUMBER: P920741

CATALOG NUMBER: DFN2DIP-TR3F0-030D060US935-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1005.0	1005.0	1005.0	1005.0	1005.0
2.5°	1010.9	1006.1	995.4	1005.0	1003.2
5°	1005.0	1001.3	990.6	998.3	996.4
7.5°	998.3	992.6	981.9	989.7	987.7
10°	987.7	980.9	969.4	977.1	974.2
12.5°	973.2	967.4	955.9	960.6	958.7
15°	956.7	951.1	938.4	942.3	937.5
17.5°	936.4	930.7	918.1	922.9	918.1
20°	914.2	908.4	894.9	897.8	894.0
22.5°	892.1	883.4	870.7	870.7	868.7
25°	865.9	858.2	841.8	843.7	841.8
27.5°	836.9	830.1	817.6	814.8	809.9
30°	808.0	800.2	785.7	782.8	778.9
32.5°	777.1	771.3	755.8	749.9	746.1
35°	747.1	737.4	721.9	716.1	711.3
37.5°	713.3	704.6	689.1	682.3	677.4
40°	678.5	670.7	655.2	646.6	642.7
42.5°	644.6	636.9	621.5	611.7	606.0
45°	608.0	601.1	586.6	576.0	572.1
47.5°	572.1	565.4	549.9	539.2	533.5
50°	534.4	529.6	516.1	502.6	497.7
52.5°	497.7	490.9	478.5	467.8	461.0
55°	460.1	454.3	442.6	431.1	426.3
57.5°	422.3	417.5	404.9	393.3	389.4
60°	384.6	380.8	367.3	356.6	353.8
62.5°	347.9	341.1	331.5	321.8	318.0
65°	310.3	304.4	294.8	286.1	281.3
67.5°	271.6	266.7	258.0	251.3	247.5
70°	235.8	232.0	223.3	216.5	212.7
72.5°	199.1	195.2	190.4	183.7	180.8
75°	162.3	160.5	155.6	149.8	151.8
77.5°	129.5	125.6	123.6	120.8	118.0
80°	96.7	95.7	93.7	90.8	88.9
82.5°	65.7	65.7	64.8	60.9	60.9
85°	39.6	38.7	37.7	34.8	33.8
87.5°	17.4	15.5	13.5	10.7	9.6
90°	1.2	15.2	25.1	31.6	34.0
92.5°	31.6	26.5	30.2	32.8	34.0
95°	82.0	40.3	49.2	55.6	54.2
97.5°	147.6	44.2	64.2	68.2	69.4
100°	223.3	50.5	71.9	82.0	84.5
102.5°	306.5	304.1	74.5	88.3	92.1
105°	383.5	421.4	77.0	90.7	95.9
107.5°	473.1	504.5	79.6	93.3	98.4
110°	559.0	585.3	220.8	94.7	99.6

TEST NUMBER: P920741

CATALOG NUMBER: DFN2DIP-TR3F0-030D060US935-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	639.6	662.3	640.8	97.0	101.0
115°	725.4	746.8	778.4	194.3	103.5
117.5°	799.8	825.0	846.5	666.1	335.5
120°	883.1	902.0	924.8	939.9	769.6
122.5°	953.6	973.9	999.2	1006.7	1008.1
125°	1025.6	1042.1	1066.0	1074.9	1078.6
127.5°	1091.2	1108.9	1127.9	1140.5	1141.7
130°	1153.0	1173.3	1187.1	1201.0	1199.8
132.5°	1216.2	1232.6	1246.4	1257.7	1256.5
135°	1269.2	1289.4	1300.6	1313.4	1310.8
137.5°	1324.6	1339.7	1352.5	1365.0	1361.3
140°	1378.8	1389.0	1402.8	1414.2	1407.9
142.5°	1424.3	1433.2	1449.6	1459.6	1453.3
145°	1472.3	1470.9	1492.4	1501.2	1495.0
147.5°	1513.8	1510.0	1531.5	1537.7	1532.8
150°	1554.3	1545.4	1565.6	1573.1	1566.8
152.5°	1588.3	1578.2	1597.1	1604.7	1595.9
155°	1621.1	1609.8	1625.0	1632.5	1622.4
157.5°	1647.6	1637.5	1648.9	1657.8	1647.6
160°	1670.3	1662.7	1670.3	1677.8	1669.0
162.5°	1690.4	1682.9	1689.2	1698.1	1686.7
165°	1708.1	1700.6	1704.3	1713.2	1704.3
167.5°	1722.0	1714.4	1718.3	1727.2	1715.7
170°	1733.4	1725.8	1728.4	1737.1	1725.8
172.5°	1740.9	1733.4	1735.9	1744.8	1733.4
175°	1747.2	1738.4	1740.9	1749.7	1737.1
177.5°	1749.7	1740.9	1742.2	1751.1	1739.7
180°	1743.4	1743.4	1743.4	1743.4	1743.4

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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	6.23	6.96	7.32	8.04	9.54	5.80	6.53	6.89	7.62	9.11
	3H	7.87	8.52	8.97	9.62	11.13	7.40	8.06	8.50	9.15	10.66
	4H	8.45	9.07	9.55	10.16	11.68	7.98	8.60	9.09	9.69	11.21
	6H	8.83	9.40	9.95	10.50	12.03	8.36	8.93	9.48	10.03	11.56
	8H	8.93	9.47	10.05	10.59	12.11	8.46	9.00	9.58	10.12	11.64
	12H	8.97	9.48	10.09	10.59	12.14	8.50	9.01	9.62	10.12	11.66
4H	2H	6.67	7.29	7.79	8.39	9.90	6.33	6.95	7.44	8.05	9.56
	3H	8.51	9.03	9.64	10.15	11.68	8.13	8.64	9.25	9.77	11.29
	4H	9.22	9.69	10.34	10.80	12.35	8.82	9.29	9.94	10.40	11.95
	6H	9.71	10.12	10.85	11.26	12.80	9.31	9.72	10.44	10.85	12.39
	8H	9.86	10.24	10.99	11.36	12.92	9.45	9.83	10.58	10.96	12.51
	12H	9.92	10.26	11.07	11.40	12.96	9.50	9.85	10.65	10.99	12.55
8H	4H	9.40	9.78	10.53	10.91	12.46	9.04	9.42	10.17	10.55	12.10
	6H	10.01	10.33	11.16	11.50	13.05	9.65	9.97	10.81	11.14	12.69
	8H	10.23	10.50	11.38	11.65	13.22	9.86	10.14	11.02	11.29	12.86
	12H	10.34	10.59	11.51	11.73	13.34	9.97	10.21	11.13	11.35	12.96
12H	4H	9.38	9.72	10.52	10.86	12.42	9.03	9.37	10.18	10.51	12.07
	6H	10.04	10.31	11.20	11.46	13.04	9.69	9.97	10.85	11.12	12.69
	8H	10.27	10.51	11.43	11.66	13.26	9.92	10.16	11.08	11.30	12.91

END OF REPORT