

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: P909827

Luminaire Tested: DFN2DIP-TR3F0-030D050US840-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P909827
REPORT IS A COMBINATION OF REPORTS P901820 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-030D050US840-RLLONL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

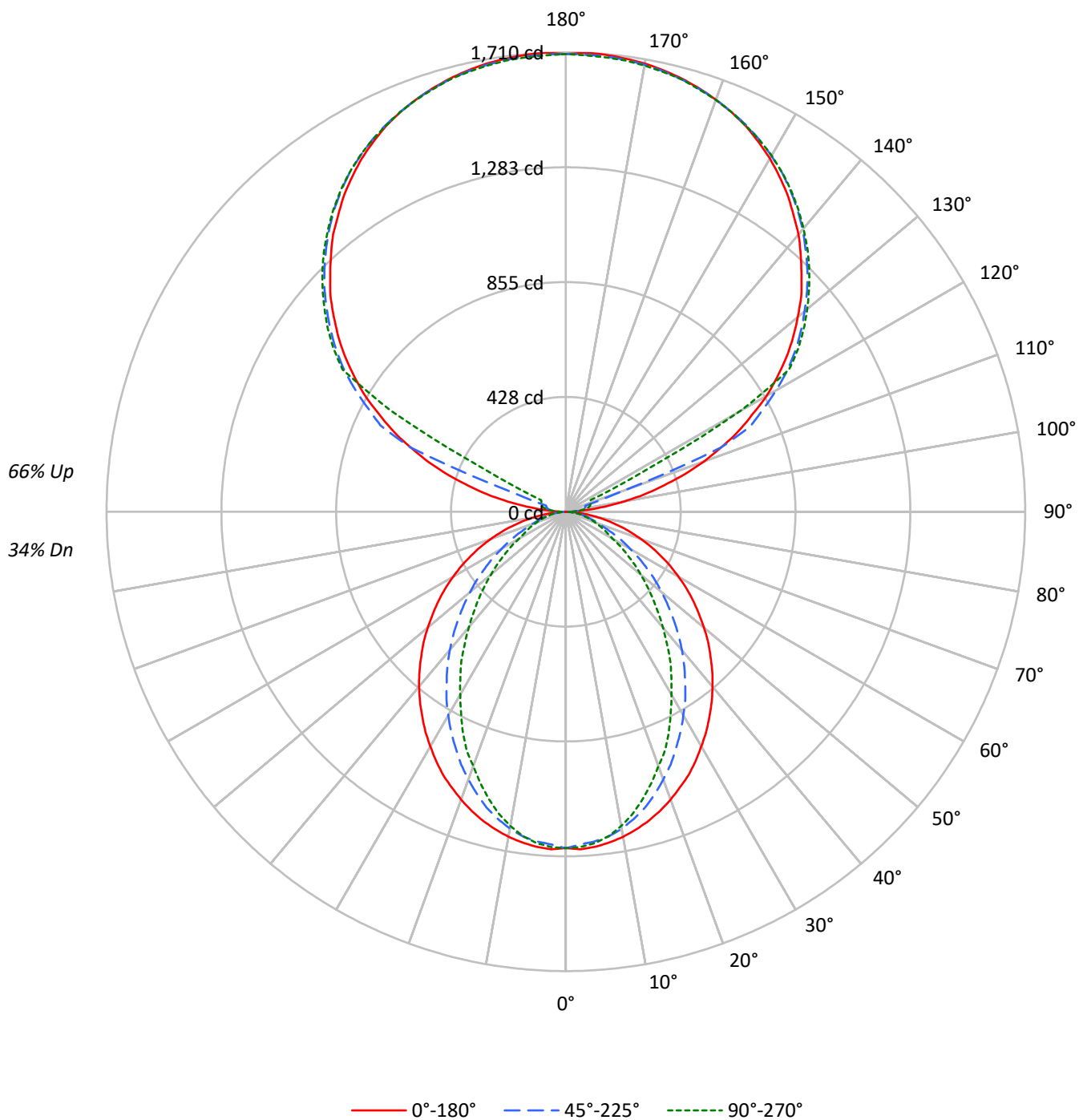
Lumens per Lamp: N/A
Luminaire Lumens: 7573.9 lumens
Efficiency: N/A
Efficacy: 124.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 61.1
Input Voltage (V):
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: P909827

CATALOG NUMBER: DFN2DIP-TR3F0-030D050US840-RLLONL

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	95	90	87	83	85	82	79	76	66	64	62	51	49	48	37	36	36
2	86	79	74	69	78	72	67	63	58	54	52	45	43	41	33	32	30
3	79	70	63	58	71	63	58	53	51	47	44	40	37	35	30	28	26
4	72	62	55	49	65	56	50	45	46	41	37	36	33	30	27	25	23
5	66	55	48	42	60	50	44	39	41	36	32	32	29	26	24	22	20
6	61	50	42	36	55	45	39	34	37	32	28	29	26	23	22	20	18
7	57	45	37	32	51	41	34	30	34	29	25	27	23	20	20	18	16
8	52	41	33	28	47	37	31	26	31	26	22	24	21	18	19	16	14
9	49	37	30	25	44	34	28	23	28	23	20	22	19	16	17	15	13
10	46	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1560	1560	1560
5°	1562	1534	1544
10°	1546	1503	1493
15°	1523	1452	1414
20°	1494	1382	1318
25°	1465	1304	1225
30°	1425	1224	1108
35°	1386	1139	1005
40°	1347	1051	887
45°	1301	953	780
50°	1253	854	676
55°	1203	748	576
60°	1146	638	473
65°	1079	527	424
70°	999	423	382
75°	897	370	346
80°	751	306	297
85°	511	198	217

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1301 cd/sqm

TEST NUMBER: P909827

CATALOG NUMBER: DFN2DIP-TR3F0-030D050US840-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.4	1.5
10°-20°	322.1	4.3
20°-30°	452.3	6.0
30°-40°	493.0	6.5
40°-50°	453.1	6.0
50°-60°	355.9	4.7
60°-70°	231.6	3.1
70°-80°	119.2	1.6
80°-90°	33.4	0.4
90°-100°	56.2	0.7
100°-110°	209.5	2.8
110°-120°	555.6	7.3
120°-130°	921.4	12.2
130°-140°	978.8	12.9
140°-150°	909.7	12.0
150°-160°	731.3	9.7
160°-170°	471.2	6.2
170°-180°	162.2	2.1
0°-30°	891.8	11.8
0°-40°	1384.8	18.3
0°-60°	2193.8	29.0
0°-90°	2578.1	34.0
90°-120°	821.2	10.8
90°-150°	3631.1	47.9
90°-180°	4996.0	66.0
0°-180°	7573.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1252	1252	1252	1252	1252	
5°	1252	1246	1232	1242	1238	119
15°	1191	1178	1140	1118	1107	336
25°	1081	1045	970	924	906	497
35°	932	874	774	703	678	583
45°	762	686	567	486	459	588
55°	579	491	368	300	279	517
65°	391	299	197	159	155	388
75°	208	129	91	83	82	220
85°	49	25	22	22	22	56
90°	1	15	25	31	33	7
95°	80	39	48	54	53	95
105°	375	412	75	89	94	401
115°	709	730	761	190	101	698
125°	1002	1019	1042	1051	1054	894
135°	1240	1260	1271	1284	1281	958
145°	1439	1438	1459	1467	1461	900
155°	1584	1574	1588	1596	1586	730
165°	1670	1662	1666	1674	1666	472
175°	1708	1699	1702	1710	1698	163
180°	1704	1704	1704	1704	1704	

TEST NUMBER: P909827

CATALOG NUMBER: DFN2DIP-TR3F0-030D050US840-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1252.1	1252.1	1252.1	1252.1	1252.1
2.5°	1257.8	1252.1	1239.6	1251.0	1248.8
5°	1252.1	1246.5	1231.7	1241.9	1238.5
7.5°	1241.9	1235.2	1219.3	1223.8	1218.1
10°	1228.3	1220.4	1197.8	1194.3	1187.6
12.5°	1211.3	1201.1	1170.5	1163.8	1151.2
15°	1190.9	1178.4	1139.9	1118.4	1107.1
17.5°	1167.1	1149.0	1101.4	1076.5	1058.3
20°	1139.9	1117.2	1060.6	1032.4	1007.3
22.5°	1110.5	1084.4	1018.7	980.2	963.2
25°	1081.1	1044.7	970.0	923.5	906.5
27.5°	1045.9	1007.3	924.6	871.4	845.3
30°	1008.6	965.4	874.7	817.1	786.4
32.5°	972.2	920.1	827.3	759.2	730.8
35°	931.5	873.6	774.0	702.6	677.6
37.5°	891.8	829.4	724.1	645.8	617.6
40°	849.9	781.9	672.0	591.5	562.1
42.5°	806.8	734.4	619.9	535.9	507.7
45°	761.5	685.5	566.6	486.0	458.9
47.5°	718.4	638.0	515.6	435.1	410.2
50°	670.9	590.4	465.7	387.5	363.8
52.5°	624.3	539.4	418.2	343.4	321.8
55°	579.0	490.6	368.2	300.3	278.8
57.5°	532.6	441.9	324.2	260.6	242.5
60°	484.9	394.4	277.6	219.8	201.8
62.5°	438.6	347.9	237.9	183.6	174.6
65°	390.9	299.1	197.1	158.6	155.2
67.5°	345.7	253.8	158.6	139.4	135.9
70°	298.0	209.6	131.4	120.1	115.5
72.5°	252.7	168.7	109.9	100.9	98.6
75°	208.4	129.2	90.7	82.7	81.6
77.5°	164.3	91.7	71.4	66.9	64.5
80°	123.5	65.7	54.3	49.9	49.9
82.5°	86.0	44.2	37.4	35.1	35.1
85°	48.7	24.8	21.5	21.5	21.5
87.5°	18.2	9.0	9.0	8.0	8.0
90°	1.2	14.7	24.6	30.9	33.2
92.5°	30.9	26.0	29.6	32.1	33.2
95°	80.1	39.4	48.1	54.3	53.0
97.5°	144.2	43.2	62.8	66.7	67.8
100°	218.3	49.4	70.3	80.1	82.6
102.5°	299.6	297.2	72.8	86.2	90.1
105°	374.9	411.9	75.2	88.8	93.7
107.5°	462.4	493.1	77.8	91.2	96.2
110°	546.3	572.1	215.8	92.5	97.4



TEST NUMBER: P909827

CATALOG NUMBER: DFN2DIP-TR3F0-030D050US840-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	625.2	647.3	626.4	94.9	98.7
115°	709.0	729.9	760.8	190.0	101.2
117.5°	781.7	806.4	827.5	651.0	328.0
120°	863.1	881.6	903.8	918.7	752.1
122.5°	932.1	951.9	976.6	984.0	985.3
125°	1002.4	1018.6	1042.0	1050.6	1054.3
127.5°	1066.5	1083.8	1102.5	1114.7	1115.9
130°	1127.0	1146.8	1160.2	1173.9	1172.8
132.5°	1188.7	1204.8	1218.2	1229.4	1228.2
135°	1240.5	1260.3	1271.2	1283.7	1281.2
137.5°	1294.6	1309.5	1321.9	1334.2	1330.6
140°	1347.7	1357.7	1371.1	1382.2	1376.1
142.5°	1392.2	1400.9	1416.8	1426.6	1420.5
145°	1439.1	1437.7	1458.6	1467.3	1461.2
147.5°	1479.7	1475.9	1496.9	1503.1	1498.2
150°	1519.1	1510.6	1530.2	1537.6	1531.5
152.5°	1552.4	1542.6	1561.1	1568.5	1559.8
155°	1584.5	1573.5	1588.2	1595.6	1585.8
157.5°	1610.3	1600.5	1611.6	1620.3	1610.3
160°	1632.6	1625.2	1632.6	1639.9	1631.3
162.5°	1652.2	1645.0	1651.0	1659.7	1648.6
165°	1669.5	1662.2	1665.9	1674.5	1665.9
167.5°	1683.1	1675.7	1679.5	1688.1	1677.0
170°	1694.3	1686.8	1689.3	1697.9	1686.8
172.5°	1701.6	1694.3	1696.8	1705.4	1694.3
175°	1707.8	1699.1	1701.6	1710.2	1697.9
177.5°	1710.2	1701.6	1702.9	1711.5	1700.4
180°	1704.0	1704.0	1704.0	1704.0	1704.0

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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	6.94	7.65	8.02	8.73	10.22	2.91	3.63	4.00	4.71	6.19
	3H	8.60	9.23	9.69	10.33	11.83	4.09	4.73	5.18	5.82	7.32
	4H	9.19	9.80	10.30	10.89	12.40	4.53	5.13	5.63	6.23	7.73
	6H	9.60	10.16	10.72	11.25	12.77	4.84	5.39	5.95	6.49	8.01
	8H	9.72	10.25	10.84	11.36	12.87	4.92	5.45	6.04	6.56	8.08
	12H	9.77	10.28	10.90	11.38	12.92	4.96	5.46	6.08	6.57	8.10
4H	2H	6.94	7.54	8.05	8.64	10.15	3.49	4.09	4.60	5.19	6.69
	3H	8.75	9.25	9.87	10.37	11.89	4.82	5.32	5.94	6.45	7.97
	4H	9.43	9.89	10.55	11.00	12.54	5.36	5.82	6.48	6.93	8.47
	6H	9.93	10.32	11.06	11.46	12.99	5.77	6.16	6.90	7.30	8.83
	8H	10.09	10.46	11.22	11.59	13.14	5.89	6.26	7.02	7.38	8.93
	12H	10.18	10.51	11.33	11.65	13.20	5.95	6.28	7.09	7.42	8.97
8H	4H	9.38	9.75	10.52	10.88	12.43	5.63	6.00	6.76	7.12	8.67
	6H	9.94	10.24	11.09	11.41	12.95	6.13	6.44	7.28	7.60	9.15
	8H	10.15	10.41	11.30	11.56	13.12	6.32	6.58	7.48	7.73	9.30
	12H	10.27	10.51	11.43	11.65	13.25	6.43	6.66	7.59	7.80	9.41
12H	4H	9.33	9.67	10.48	10.80	12.36	5.62	5.96	6.77	7.10	8.65
	6H	9.91	10.18	11.07	11.32	12.89	6.18	6.44	7.34	7.59	9.16
	8H	10.12	10.35	11.28	11.50	13.10	6.38	6.61	7.54	7.76	9.36

END OF REPORT