

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: P909749

Luminaire Tested: DFN2DIP-TR2F0-030D050US840-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P909749
REPORT IS A COMBINATION OF REPORTS P901773 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-030D050US840-FLLONL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

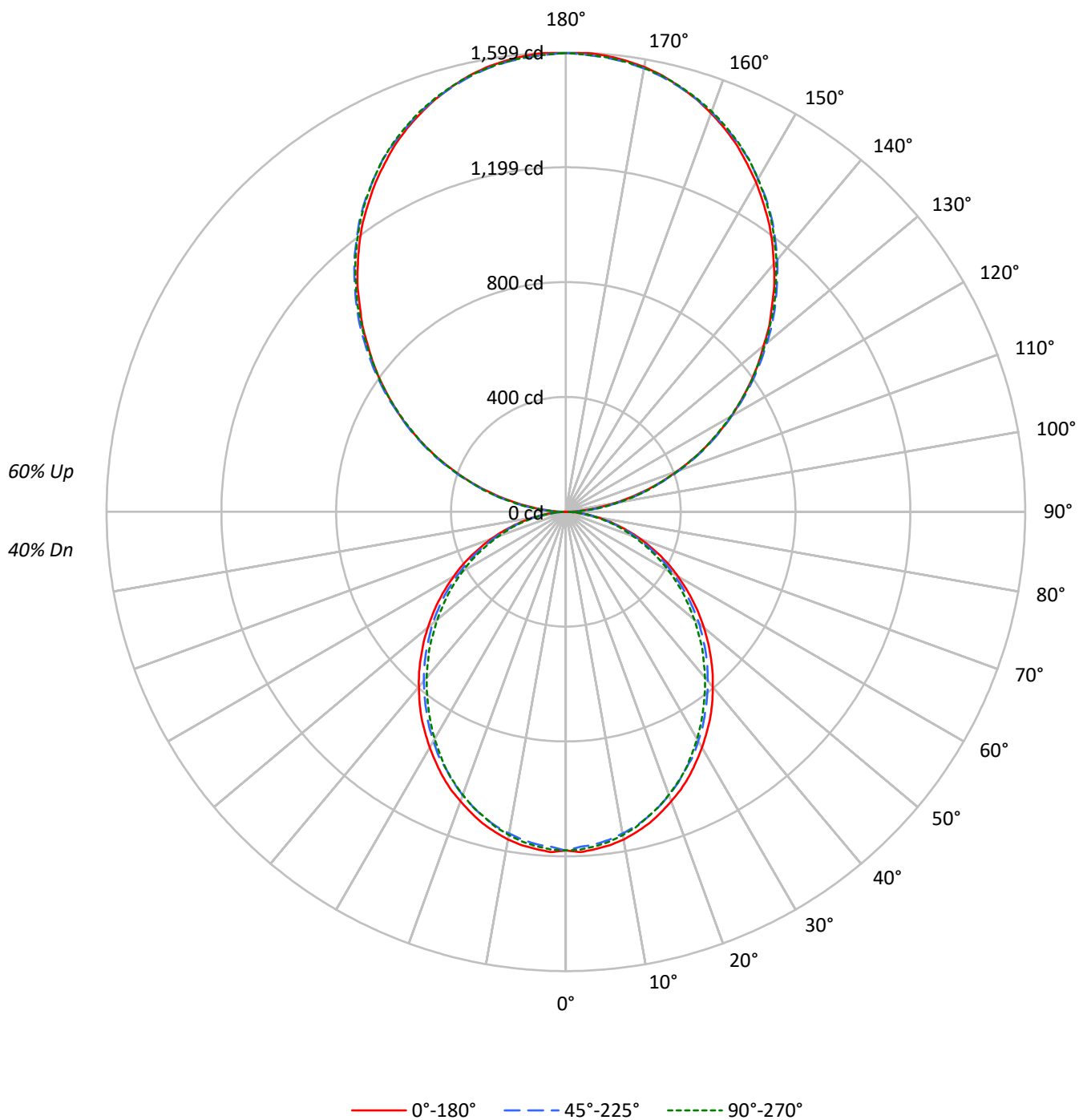
Lumens per Lamp: N/A
Luminaire Lumens: 7468.0 lumens
Efficiency: N/A
Efficacy: 117.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 63.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P909749

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US840-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P909749

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US840-FLONL

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	91	87	84	87	83	80	77	68	66	64	54	53	51	42	41	40
2	87	80	74	69	79	73	68	63	60	56	53	48	45	43	37	35	33
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	32	30	28
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	29	27	25
5	67	55	47	41	60	51	44	38	42	37	33	34	30	27	26	23	21
6	61	49	41	36	56	45	38	33	38	32	28	30	27	24	24	21	19
7	57	45	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17
8	52	40	33	28	48	37	30	26	31	26	22	25	21	18	20	17	15
9	49	37	29	24	44	34	27	23	28	23	20	23	19	17	18	16	14
10	46	34	27	22	41	31	25	20	26	21	18	21	18	15	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2629	2629	2629
5°	2630	2587	2606
10°	2604	2546	2566
15°	2562	2498	2506
20°	2507	2434	2445
25°	2451	2359	2376
30°	2383	2288	2288
35°	2317	2206	2196
40°	2238	2123	2109
45°	2158	2039	2018
50°	2070	1950	1914
55°	1979	1849	1817
60°	1875	1729	1707
65°	1761	1603	1576
70°	1616	1451	1434
75°	1417	1267	1297
80°	1174	1033	1049
85°	802	651	652

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2158 cd/sqm

TEST NUMBER: P909749

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US840-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.0	1.5
10°-20°	312.2	4.2
20°-30°	458.8	6.1
30°-40°	532.8	7.1
40°-50°	532.2	7.1
50°-60°	464.1	6.2
60°-70°	343.1	4.6
70°-80°	194.1	2.6
80°-90°	55.8	0.7
90°-100°	98.8	1.3
100°-110°	314.0	4.2
110°-120°	537.3	7.2
120°-130°	706.6	9.5
130°-140°	793.2	10.6
140°-150°	777.8	10.4
150°-160°	652.5	8.7
160°-170°	432.7	5.8
170°-180°	151.2	2.0
0°-30°	881.9	11.8
0°-40°	1414.7	18.9
0°-60°	2411.0	32.3
0°-90°	3003.9	40.2
90°-120°	950.1	12.7
90°-150°	3227.7	43.2
90°-180°	4464.0	59.8
0°-180°	7468.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1179	1179	1179	1179	1179	
5°	1179	1174	1162	1171	1169	112
15°	1122	1116	1101	1105	1100	316
25°	1016	1007	987	990	987	467
35°	876	865	847	840	834	547
45°	713	705	688	676	671	550
55°	540	533	519	506	500	482
65°	364	357	346	336	330	360
75°	190	188	182	176	178	203
85°	46	45	44	41	40	52
90°	1	17	47	44	46	7
95°	70	84	86	86	84	78
105°	290	294	297	299	299	306
115°	539	547	544	543	539	533
125°	784	796	792	788	787	701
135°	1014	1029	1032	1031	1027	784
145°	1232	1241	1249	1250	1245	769
155°	1408	1412	1416	1423	1419	648
165°	1532	1530	1530	1540	1533	432
175°	1594	1590	1587	1597	1589	151
180°	1597	1597	1597	1597	1597	

TEST NUMBER: P909749

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US840-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1178.8	1178.8	1178.8	1178.8	1178.8
2.5°	1185.7	1180.0	1167.5	1178.8	1176.7
5°	1178.8	1174.4	1161.9	1170.9	1168.7
7.5°	1170.9	1164.2	1151.7	1160.8	1158.5
10°	1158.5	1150.5	1137.0	1146.0	1142.7
12.5°	1141.5	1134.7	1121.2	1126.7	1124.5
15°	1122.2	1115.5	1100.7	1105.2	1099.5
17.5°	1098.3	1091.7	1076.8	1082.5	1076.8
20°	1072.3	1065.5	1049.7	1053.0	1048.5
22.5°	1046.3	1036.1	1021.3	1021.3	1019.0
25°	1015.6	1006.6	987.3	989.6	987.3
27.5°	981.6	973.6	959.0	955.6	950.0
30°	947.7	938.6	921.6	918.2	913.6
32.5°	911.4	904.6	886.5	879.6	875.0
35°	876.3	864.9	846.8	839.9	834.2
37.5°	836.6	826.4	808.2	800.2	794.6
40°	795.8	786.7	768.5	758.4	753.9
42.5°	756.1	747.0	728.9	717.5	710.7
45°	713.1	705.1	688.0	675.6	671.1
47.5°	671.1	663.2	645.0	632.5	625.7
50°	626.8	621.2	605.3	589.5	583.8
52.5°	583.8	575.8	561.2	548.7	540.7
55°	539.7	532.8	519.2	505.6	500.0
57.5°	495.3	489.7	474.9	461.3	456.8
60°	451.1	446.7	430.8	418.3	415.0
62.5°	408.1	400.1	388.8	377.5	372.9
65°	364.0	357.1	345.8	335.6	329.9
67.5°	318.6	312.9	302.7	294.8	290.2
70°	276.6	272.1	261.9	253.9	249.4
72.5°	233.6	228.9	223.3	215.4	212.1
75°	190.4	188.2	182.5	175.7	178.0
77.5°	151.9	147.3	145.0	141.7	138.4
80°	113.4	112.2	109.9	106.5	104.3
82.5°	77.1	77.1	76.0	71.4	71.4
85°	46.5	45.3	44.2	40.8	39.7
87.5°	20.4	18.2	15.9	12.5	11.3
90°	1.4	17.4	47.2	44.3	45.7
92.5°	29.9	40.4	41.9	43.3	43.3
95°	70.3	83.8	86.1	86.1	83.8
97.5°	116.9	129.5	134.8	134.8	134.8
100°	170.9	182.0	185.8	185.8	184.4
102.5°	227.7	235.9	241.2	242.7	241.2
105°	289.8	293.7	296.6	298.9	298.9
107.5°	351.4	357.2	357.2	358.2	351.4
110°	411.1	418.9	418.9	418.9	415.0

TEST NUMBER: P909749

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US840-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	475.6	483.8	482.4	478.6	475.6
115°	539.2	546.9	544.5	543.1	539.2
117.5°	602.3	612.9	606.1	602.3	598.4
120°	665.8	676.4	665.8	665.8	661.5
122.5°	723.6	737.1	730.3	726.5	723.6
125°	784.3	796.3	792.4	788.1	786.7
127.5°	843.4	858.4	853.1	847.3	843.4
130°	898.9	916.2	913.7	910.9	905.5
132.5°	961.0	974.4	975.4	968.7	964.8
135°	1014.4	1029.3	1032.2	1030.8	1026.9
137.5°	1074.1	1086.1	1088.5	1087.5	1081.8
140°	1126.5	1138.6	1145.3	1145.3	1140.0
142.5°	1180.4	1192.6	1196.4	1197.8	1192.6
145°	1231.5	1241.1	1248.8	1250.3	1245.0
147.5°	1277.3	1289.3	1295.1	1297.5	1292.1
150°	1324.4	1332.6	1337.9	1342.2	1337.9
152.5°	1366.3	1374.5	1381.2	1386.5	1381.2
155°	1408.2	1412.0	1416.3	1423.1	1418.8
157.5°	1444.3	1447.1	1449.6	1459.3	1452.5
160°	1476.5	1479.5	1480.9	1489.0	1483.3
162.5°	1506.4	1506.4	1507.8	1517.0	1510.3
165°	1532.0	1530.5	1530.5	1540.1	1533.4
167.5°	1555.0	1550.6	1550.6	1560.3	1553.6
170°	1572.4	1568.5	1567.1	1576.7	1568.5
172.5°	1584.4	1580.5	1579.1	1588.7	1580.5
175°	1594.1	1590.1	1587.3	1596.9	1588.7
177.5°	1599.3	1595.5	1592.6	1600.7	1592.6
180°	1596.9	1596.9	1596.9	1596.9	1596.9

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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	9.52	10.30	10.56	11.35	12.75	9.10	9.88	10.14	10.92	12.33
	3H	11.15	11.85	12.20	12.90	14.33	10.69	11.39	11.74	12.44	13.87
	4H	11.72	12.38	12.78	13.44	14.87	11.26	11.92	12.32	12.98	14.41
	6H	12.10	12.71	13.17	13.77	15.21	11.64	12.25	12.71	13.31	14.75
	8H	12.19	12.77	13.26	13.85	15.28	11.73	12.31	12.81	13.39	14.83
	12H	12.23	12.78	13.31	13.85	15.31	11.77	12.32	12.84	13.39	14.85
4H	2H	9.97	10.63	11.03	11.68	13.11	9.63	10.29	10.69	11.34	12.77
	3H	11.80	12.35	12.87	13.43	14.87	11.41	11.97	12.49	13.05	14.49
	4H	12.49	13.00	13.57	14.07	15.53	12.09	12.60	13.17	13.67	15.14
	6H	12.98	13.41	14.06	14.51	15.97	12.58	13.02	13.67	14.11	15.57
	8H	13.11	13.52	14.20	14.61	16.08	12.72	13.12	13.80	14.21	15.69
	12H	13.17	13.54	14.28	14.64	16.12	12.77	13.13	13.87	14.24	15.72
8H	4H	12.67	13.08	13.76	14.16	15.64	12.32	12.72	13.40	13.81	15.29
	6H	13.27	13.60	14.38	14.73	16.21	12.92	13.25	14.03	14.38	15.85
	8H	13.47	13.77	14.59	14.88	16.37	13.12	13.41	14.23	14.52	16.01
	12H	13.59	13.84	14.71	14.95	16.48	13.22	13.47	14.34	14.58	16.11
12H	4H	12.65	13.02	13.75	14.12	15.60	12.30	12.67	13.41	13.77	15.25
	6H	13.29	13.59	14.41	14.70	16.19	12.95	13.25	14.07	14.36	15.85
	8H	13.51	13.77	14.63	14.88	16.41	13.17	13.43	14.29	14.53	16.06