

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: P922671

Luminaire Tested: DFN2DIP-SQ2F0-070D050US940-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P922671
REPORT IS A COMBINATION OF REPORTS P901324 AND P898215
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-070D050US940-RLLONL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

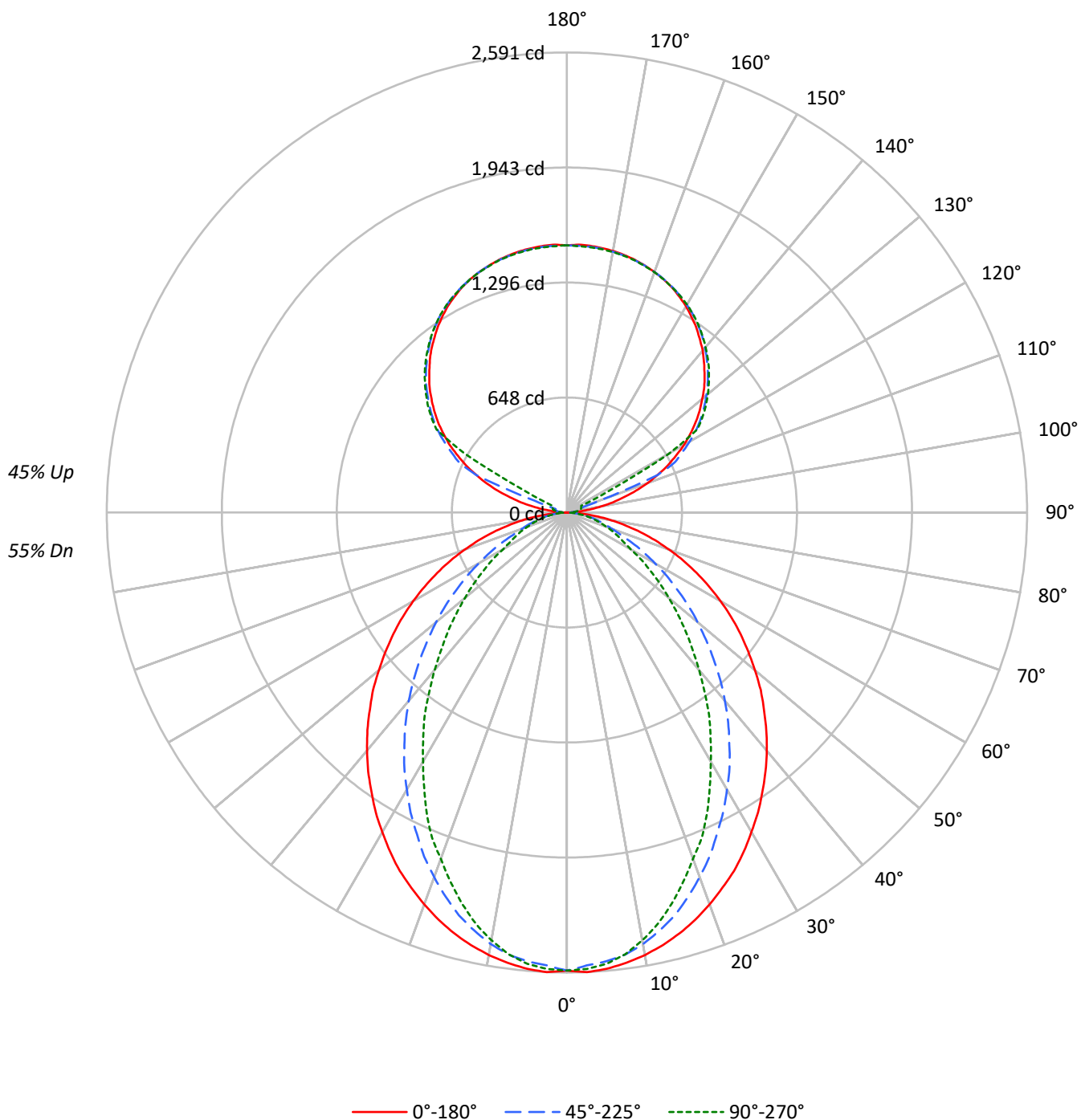
Lumens per Lamp: N/A
Luminaire Lumens: 9719.6 lumens
Efficiency: N/A
Efficacy: 92.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 105.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P922671

CATALOG NUMBER: DFN2DIP-SQ2F0-070D050US940-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P922671

CATALOG NUMBER: DFN2DIP-SQ2F0-070D050US940-RLLONL

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	108	108	108	108	100	100	100	100	86	86	86	73	73	73	60	60	60
1	99	95	91	88	92	89	85	82	76	74	72	65	63	62	54	53	52
2	91	84	78	73	84	78	73	69	67	63	60	57	55	52	48	46	45
3	83	74	67	61	77	69	63	58	60	55	51	51	48	45	43	41	39
4	76	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34
5	70	59	51	45	65	55	48	43	48	43	38	42	37	34	35	32	30
6	65	53	45	40	60	50	43	38	44	38	34	38	33	30	32	29	26
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	26	24
8	56	44	36	31	52	41	34	30	36	31	27	32	27	24	27	24	21
9	52	40	33	28	49	38	31	27	34	28	24	29	25	22	25	22	19
10	49	37	30	25	46	35	28	24	31	26	22	27	23	20	24	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5673	5673	5673
5°	5672	5570	5610
10°	5606	5449	5420
15°	5519	5257	5131
20°	5407	4997	4778
25°	5292	4708	4438
30°	5142	4413	4009
35°	4994	4097	3633
40°	4843	3772	3203
45°	4668	3412	2813
50°	4487	3050	2433
55°	4296	2665	2069
60°	4076	2264	1695
65°	3821	1859	1517
70°	3511	1480	1361
75°	3122	1281	1223
80°	2564	1041	1036
85°	1669	646	737

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4668 cd/sqm

TEST NUMBER: P922671

CATALOG NUMBER: DFN2DIP-SQ2F0-070D050US940-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.8	2.5
10°-20°	663.7	6.8
20°-30°	931.9	9.6
30°-40°	1015.8	10.5
40°-50°	933.6	9.6
50°-60°	733.2	7.5
60°-70°	477.3	4.9
70°-80°	245.7	2.5
80°-90°	65.3	0.7
90°-100°	49.6	0.5
100°-110°	185.0	1.9
110°-120°	490.6	5.0
120°-130°	813.6	8.4
130°-140°	864.3	8.9
140°-150°	803.2	8.3
150°-160°	645.8	6.6
160°-170°	416.1	4.3
170°-180°	143.2	1.5
0°-30°	1837.4	18.9
0°-40°	2853.2	29.4
0°-60°	4520.0	46.5
0°-90°	5308.3	54.6
90°-120°	725.2	7.5
90°-150°	3206.2	33.0
90°-180°	4411.0	45.4
0°-180°	9719.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2580	2580	2580	2580	2580	
5°	2580	2568	2538	2559	2552	245
15°	2454	2428	2349	2304	2281	691
25°	2227	2152	1998	1903	1868	1024
35°	1919	1800	1595	1448	1396	1201
45°	1569	1412	1167	1002	946	1212
55°	1193	1011	759	619	574	1066
65°	806	616	406	327	320	799
75°	430	266	187	170	168	454
85°	100	51	44	44	44	115
90°	1	13	22	27	29	9
95°	71	35	42	48	47	84
105°	331	364	66	78	83	354
115°	626	644	672	168	89	616
125°	885	899	920	928	931	789
135°	1095	1113	1122	1134	1131	846
145°	1271	1270	1288	1296	1290	795
155°	1399	1389	1402	1409	1400	645
165°	1474	1468	1471	1478	1471	416
175°	1508	1500	1502	1510	1499	144
180°	1505	1505	1505	1505	1505	

TEST NUMBER: P922671

CATALOG NUMBER: DFN2DIP-SQ2F0-070D050US940-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2579.8	2579.8	2579.8	2579.8	2579.8
2.5°	2591.4	2579.8	2554.0	2577.6	2572.9
5°	2579.8	2568.1	2537.7	2558.8	2551.8
7.5°	2558.8	2544.9	2512.2	2521.3	2509.7
10°	2530.8	2514.4	2467.8	2460.7	2446.8
12.5°	2495.8	2474.8	2411.6	2397.7	2371.9
15°	2453.7	2427.9	2348.7	2304.4	2281.1
17.5°	2404.7	2367.3	2269.2	2217.9	2180.5
20°	2348.7	2301.9	2185.2	2127.0	2075.5
22.5°	2288.0	2234.3	2098.7	2019.5	1984.6
25°	2227.3	2152.5	1998.4	1902.8	1867.7
27.5°	2155.0	2075.5	1905.1	1795.4	1741.6
30°	2078.0	1989.0	1802.2	1683.4	1620.2
32.5°	2003.1	1895.7	1704.4	1564.2	1505.7
35°	1919.1	1800.0	1594.7	1447.6	1396.1
37.5°	1837.5	1708.9	1491.9	1330.6	1272.5
40°	1751.0	1611.1	1384.4	1218.7	1158.0
42.5°	1662.3	1513.0	1277.1	1104.2	1046.1
45°	1569.0	1412.4	1167.4	1001.5	945.5
47.5°	1480.2	1314.6	1062.4	896.4	845.2
50°	1382.2	1216.5	959.6	798.3	749.6
52.5°	1286.3	1111.2	861.5	707.4	663.1
55°	1192.9	1010.8	758.7	618.8	574.4
57.5°	1097.3	910.5	667.8	537.0	499.6
60°	999.3	812.4	571.9	453.1	415.6
62.5°	903.6	716.8	490.2	378.3	359.6
65°	805.5	616.3	406.3	327.0	319.8
67.5°	712.1	522.9	327.0	287.0	280.2
70°	614.0	431.9	270.7	247.4	238.0
72.5°	520.7	347.8	226.4	207.9	203.1
75°	429.5	266.0	186.7	170.4	168.2
77.5°	338.6	189.0	147.1	137.7	133.0
80°	254.4	135.5	112.0	102.8	102.8
82.5°	177.4	91.1	77.0	72.3	72.3
85°	100.3	51.3	44.3	44.3	44.3
87.5°	37.4	18.5	18.5	16.3	16.3
90°	1.1	13.0	21.8	27.3	29.3
92.5°	27.3	22.9	26.1	28.4	29.3
95°	70.7	34.8	42.4	48.0	46.8
97.5°	127.3	38.2	55.5	58.9	59.8
100°	192.8	43.6	62.1	70.7	72.9
102.5°	264.6	262.4	64.3	76.2	79.5
105°	331.0	363.7	66.4	78.4	82.8
107.5°	408.3	435.4	68.7	80.5	85.0
110°	482.4	505.2	190.6	81.7	86.0

TEST NUMBER: P922671

CATALOG NUMBER: DFN2DIP-SQ2F0-070D050US940-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	552.1	571.6	553.1	83.8	87.1
115°	626.1	644.5	671.8	167.7	89.3
117.5°	690.3	712.0	730.7	574.8	289.6
120°	762.1	778.5	798.1	811.2	664.1
122.5°	823.0	840.5	862.4	868.9	870.0
125°	885.1	899.4	920.1	927.6	930.9
127.5°	941.7	957.0	973.5	984.3	985.3
130°	995.1	1012.6	1024.5	1036.5	1035.5
132.5°	1049.6	1063.8	1075.7	1085.6	1084.5
135°	1095.4	1112.9	1122.5	1133.5	1131.3
137.5°	1143.2	1156.3	1167.2	1178.1	1174.9
140°	1190.0	1198.8	1210.7	1220.5	1215.1
142.5°	1229.3	1237.0	1251.1	1259.7	1254.3
145°	1270.7	1269.5	1288.0	1295.7	1290.2
147.5°	1306.5	1303.2	1321.8	1327.2	1322.9
150°	1341.4	1333.8	1351.2	1357.7	1352.3
152.5°	1370.7	1362.1	1378.4	1385.0	1377.3
155°	1399.1	1389.4	1402.4	1408.9	1400.3
157.5°	1421.9	1413.3	1423.1	1430.7	1421.9
160°	1441.6	1435.0	1441.6	1448.0	1440.5
162.5°	1458.9	1452.5	1457.9	1465.5	1455.7
165°	1474.2	1467.8	1471.0	1478.5	1471.0
167.5°	1486.2	1479.6	1483.0	1490.6	1480.8
170°	1496.0	1489.4	1491.7	1499.2	1489.4
172.5°	1502.5	1496.0	1498.3	1505.8	1496.0
175°	1508.0	1500.3	1502.5	1510.1	1499.2
177.5°	1510.1	1502.5	1503.7	1511.3	1501.5
180°	1504.7	1504.7	1504.7	1504.7	1504.7

TEST NUMBER: P922671

CATALOG NUMBER: DFN2DIP-SQ2F0-070D050US940-RLONL

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	13.48	14.35	14.41	15.29	16.50	9.44	10.31	10.37	11.25	12.46
	3H	15.14	15.92	16.08	16.87	18.10	10.62	11.39	11.55	12.34	13.57
	4H	15.74	16.48	16.69	17.43	18.67	11.06	11.79	12.01	12.74	13.98
	6H	16.15	16.83	17.11	17.78	19.03	11.36	12.04	12.32	13.00	14.25
	8H	16.27	16.91	17.24	17.88	19.13	11.45	12.09	12.41	13.06	14.31
	12H	16.32	16.93	17.30	17.90	19.18	11.48	12.09	12.46	13.06	14.34
4H	2H	13.50	14.24	14.46	15.19	16.43	10.03	10.77	10.99	11.72	12.96
	3H	15.31	15.92	16.28	16.90	18.16	11.37	11.98	12.33	12.96	14.21
	4H	15.99	16.55	16.96	17.52	18.80	11.90	12.46	12.87	13.43	14.71
	6H	16.49	16.97	17.48	17.97	19.24	12.30	12.78	13.29	13.78	15.06
	8H	16.65	17.10	17.64	18.09	19.38	12.42	12.87	13.41	13.86	15.15
	12H	16.74	17.14	17.75	18.15	19.45	12.48	12.88	13.48	13.89	15.18
8H	4H	15.96	16.40	16.94	17.39	18.69	12.17	12.62	13.16	13.61	14.90
	6H	16.50	16.87	17.51	17.90	19.19	12.67	13.04	13.68	14.07	15.36
	8H	16.71	17.03	17.73	18.05	19.36	12.84	13.17	13.86	14.19	15.50
	12H	16.83	17.12	17.86	18.13	19.49	12.95	13.24	13.97	14.25	15.60
12H	4H	15.91	16.31	16.92	17.32	18.62	12.17	12.58	13.18	13.59	14.88
	6H	16.48	16.80	17.50	17.82	19.13	12.71	13.04	13.73	14.06	15.36
	8H	16.68	16.97	17.71	17.98	19.34	12.91	13.19	13.93	14.21	15.56

END OF REPORT