

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: P922591

Luminaire Tested: DFN2DIP-SQ2F0-040D030US940-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P922591
REPORT IS A COMBINATION OF REPORTS P901294 AND P898215
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-040D030US940-RLLONL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

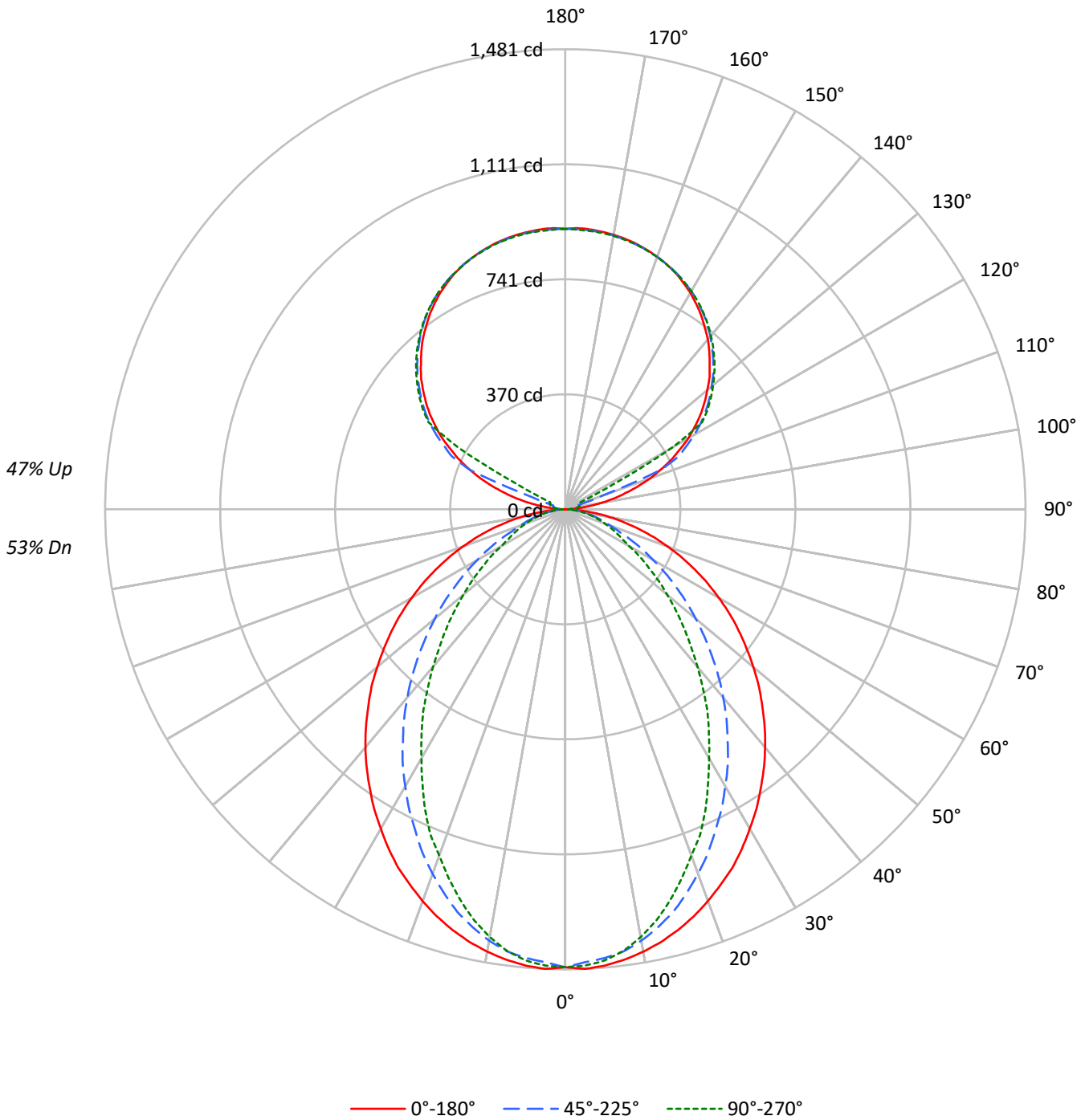
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5680.2 lumens
Efficiency: N/A
Efficacy: 100.5 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): 56.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P922591
CATALOG NUMBER: DFN2DIP-SQ2F0-040D030US940-RLLONL

Luminous Intensity Polar Plot





TEST NUMBER: P922591

CATALOG NUMBER: DFN2DIP-SQ2F0-040D030US940-RLONL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	59	59	59	53
1	99	95	91	88	92	88	85	82	76	73	71	64	62	61	53	52	51	53	52	51	46
2	91	83	78	73	84	78	73	68	67	63	60	57	54	52	47	45	44	47	45	44	39
3	83	74	67	61	77	69	63	58	59	55	51	51	47	44	42	40	38	42	40	38	34
4	76	66	58	52	70	61	55	49	53	48	44	45	42	38	38	35	33	38	35	33	30
5	70	59	51	45	65	55	48	43	48	42	38	41	37	34	35	32	29	35	32	29	26
6	65	53	45	39	60	50	43	37	43	38	34	37	33	30	32	28	26	32	28	26	23
7	60	48	40	35	56	45	38	33	39	34	30	34	30	26	29	26	23	29	26	23	21
8	56	44	36	31	52	41	34	29	36	31	27	31	27	24	27	24	21	27	24	21	19
9	52	40	33	28	48	38	31	26	33	28	24	29	25	22	25	22	19	25	22	19	17
10	49	37	30	25	45	35	28	24	31	25	22	27	23	20	23	20	17	23	20	17	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3242	3242	3242
5°	3241	3183	3206
10°	3204	3114	3097
15°	3154	3004	2932
20°	3090	2856	2730
25°	3024	2690	2536
30°	2938	2522	2291
35°	2854	2341	2076
40°	2767	2155	1830
45°	2667	1950	1608
50°	2564	1743	1390
55°	2455	1523	1182
60°	2329	1294	969
65°	2183	1062	867
70°	2007	846	778
75°	1784	732	699
80°	1465	594	593
85°	953	369	421

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2667 cd/sqm



TEST NUMBER: P922591

CATALOG NUMBER: DFN2DIP-SQ2F0-040D030US940-RLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.2	2.4
10°-20°	379.3	6.7
20°-30°	532.5	9.4
30°-40°	580.5	10.2
40°-50°	533.5	9.4
50°-60°	419.0	7.4
60°-70°	272.7	4.8
70°-80°	140.4	2.5
80°-90°	37.4	0.7
90°-100°	29.8	0.5
100°-110°	111.0	2.0
110°-120°	294.3	5.2
120°-130°	488.2	8.6
130°-140°	518.5	9.1
140°-150°	481.9	8.5
150°-160°	387.5	6.8
160°-170°	249.7	4.4
170°-180°	85.9	1.5
0°-30°	1049.9	18.5
0°-40°	1630.4	28.7
0°-60°	2582.9	45.5
0°-90°	3033.4	53.4
90°-120°	435.1	7.7
90°-150°	1923.7	33.9
90°-180°	2647.0	46.6
0°-180°	5680.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1474	1474	1474	1474	1474	
5°	1474	1468	1450	1462	1458	140
15°	1402	1387	1342	1317	1304	395
25°	1273	1230	1142	1087	1067	585
35°	1097	1029	911	827	798	686
45°	896	807	667	572	540	692
55°	682	578	434	354	328	609
65°	460	352	232	187	183	456
75°	245	152	107	97	96	260
85°	57	29	25	25	25	66
90°	1	8	13	16	18	5
95°	42	21	25	29	28	50
105°	199	218	40	47	50	212
115°	376	387	403	101	54	370
125°	531	540	552	557	559	474
135°	657	668	674	680	679	508
145°	762	762	773	777	774	477
155°	840	834	841	845	840	387
165°	884	881	883	887	883	250
175°	905	900	902	906	900	86
180°	903	903	903	903	903	



TEST NUMBER: P922591

CATALOG NUMBER: DFN2DIP-SQ2F0-040D030US940-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1474.2	1474.2	1474.2	1474.2	1474.2
2.5°	1480.9	1474.2	1459.5	1472.9	1470.2
5°	1474.2	1467.5	1450.1	1462.1	1458.2
7.5°	1462.1	1454.2	1435.6	1440.7	1434.1
10°	1446.2	1436.8	1410.2	1406.0	1398.2
12.5°	1426.2	1414.2	1378.0	1370.1	1355.4
15°	1402.1	1387.4	1342.1	1316.8	1303.5
17.5°	1374.1	1352.7	1296.6	1267.4	1246.0
20°	1342.1	1315.4	1248.7	1215.4	1186.0
22.5°	1307.4	1276.8	1199.3	1154.0	1134.1
25°	1272.7	1230.0	1141.9	1087.4	1067.2
27.5°	1231.5	1186.0	1088.6	1025.9	995.1
30°	1187.4	1136.6	1029.8	961.9	925.9
32.5°	1144.7	1083.2	973.9	893.9	860.4
35°	1096.7	1028.6	911.2	827.2	797.7
37.5°	1050.0	976.5	852.5	760.4	727.1
40°	1000.6	920.6	791.1	696.4	661.7
42.5°	949.8	864.5	729.8	631.0	597.7
45°	896.5	807.1	667.1	572.3	540.3
47.5°	845.9	751.2	607.1	512.3	483.0
50°	789.8	695.1	548.3	456.2	428.3
52.5°	735.0	635.0	492.3	404.2	378.9
55°	681.7	577.6	433.5	353.6	328.2
57.5°	627.1	520.3	381.6	306.8	285.5
60°	571.0	464.2	326.8	258.9	237.6
62.5°	516.4	409.7	280.1	216.2	205.5
65°	460.3	352.1	232.1	186.8	182.7
67.5°	407.0	298.8	186.8	164.1	160.1
70°	350.9	246.8	154.7	141.4	136.0
72.5°	297.6	198.8	129.4	118.8	116.1
75°	245.4	152.0	106.7	97.4	96.1
77.5°	193.5	108.0	84.1	78.7	76.0
80°	145.3	77.4	63.9	58.8	58.8
82.5°	101.4	52.1	44.1	41.3	41.3
85°	57.3	29.3	25.3	25.3	25.3
87.5°	21.4	10.6	10.6	9.4	9.4
90°	0.6	7.8	13.0	16.4	17.6
92.5°	16.4	13.7	15.7	17.0	17.6
95°	42.4	20.9	25.4	28.8	28.1
97.5°	76.4	22.9	33.3	35.3	35.9
100°	115.7	26.1	37.3	42.4	43.8
102.5°	158.7	157.5	38.5	45.7	47.7
105°	198.6	218.2	39.9	47.0	49.7
107.5°	245.0	261.3	41.2	48.3	51.0
110°	289.4	303.1	114.3	49.0	51.6



TEST NUMBER: P922591

CATALOG NUMBER: DFN2DIP-SQ2F0-040D030US940-RLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	331.3	343.0	331.9	50.3	52.3
115°	375.6	386.7	403.1	100.6	53.6
117.5°	414.2	427.2	438.4	344.9	173.8
120°	457.3	467.1	478.8	486.7	398.5
122.5°	493.8	504.4	517.5	521.3	522.0
125°	531.1	539.6	552.1	556.6	558.6
127.5°	565.1	574.2	584.1	590.6	591.2
130°	597.1	607.6	614.7	621.9	621.3
132.5°	629.7	638.3	645.4	651.3	650.7
135°	657.2	667.7	673.5	680.1	678.8
137.5°	685.9	693.8	700.3	706.9	704.9
140°	714.0	719.3	726.4	732.3	729.1
142.5°	737.6	742.2	750.6	755.8	752.6
145°	762.4	761.7	772.8	777.4	774.1
147.5°	783.9	781.9	793.1	796.3	793.7
150°	804.9	800.3	810.7	814.6	811.4
152.5°	822.4	817.3	827.1	831.0	826.4
155°	839.5	833.7	841.4	845.3	840.2
157.5°	853.2	848.0	853.9	858.4	853.2
160°	865.0	861.0	865.0	868.9	864.2
162.5°	875.4	871.5	874.8	879.3	873.4
165°	884.5	880.7	882.6	887.2	882.6
167.5°	891.7	887.8	889.7	894.4	888.5
170°	897.6	893.7	895.0	899.6	893.7
172.5°	901.5	897.6	898.9	903.5	897.6
175°	904.7	900.2	901.5	906.1	899.6
177.5°	906.1	901.5	902.2	906.8	900.9
180°	902.9	902.9	902.9	902.9	902.9



TEST NUMBER: P922591
 CATALOG NUMBER: DFN2DIP-SQ2F0-040D030US940-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	11.43	12.29	12.36	13.24	14.46	7.39	8.25	8.32	9.20	10.42
	3H	13.09	13.86	14.04	14.81	16.06	8.56	9.33	9.51	10.29	11.54
	4H	13.69	14.41	14.65	15.37	16.63	9.00	9.73	9.96	10.69	11.95
	6H	14.10	14.76	15.07	15.73	17.00	9.31	9.98	10.28	10.94	12.21
	8H	14.21	14.85	15.19	15.83	17.10	9.39	10.03	10.37	11.01	12.28
	12H	14.27	14.87	15.25	15.85	17.14	9.43	10.03	10.41	11.01	12.30
4H	2H	11.45	12.17	12.41	13.13	14.39	7.98	8.70	8.94	9.66	10.92
	3H	13.26	13.86	14.23	14.85	16.12	9.31	9.91	10.29	10.90	12.18
	4H	13.93	14.49	14.92	15.47	16.76	9.84	10.39	10.83	11.38	12.67
	6H	14.43	14.91	15.43	15.91	17.21	10.25	10.72	11.24	11.73	13.02
	8H	14.60	15.04	15.60	16.04	17.35	10.37	10.81	11.36	11.81	13.12
	12H	14.68	15.08	15.70	16.10	17.41	10.42	10.82	11.44	11.84	13.15
8H	4H	13.90	14.34	14.90	15.34	16.65	10.12	10.56	11.11	11.56	12.87
	6H	14.45	14.81	15.47	15.85	17.16	10.61	10.98	11.63	12.02	13.32
	8H	14.65	14.97	15.68	16.00	17.32	10.79	11.11	11.82	12.14	13.46
	12H	14.78	15.06	15.81	16.08	17.45	10.89	11.18	11.93	12.20	13.57
12H	4H	13.85	14.25	14.87	15.27	16.58	10.12	10.52	11.13	11.53	12.85
	6H	14.42	14.74	15.45	15.77	17.09	10.65	10.98	11.68	12.01	13.33
	8H	14.63	14.91	15.66	15.93	17.30	10.85	11.13	11.88	12.16	13.53