

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: P917119

Luminaire Tested: DFN2DIP-SQ2F0-030D050US930-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P917119
REPORT IS A COMBINATION OF REPORTS P901316 AND P898215
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-030D050US930-RLLONL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

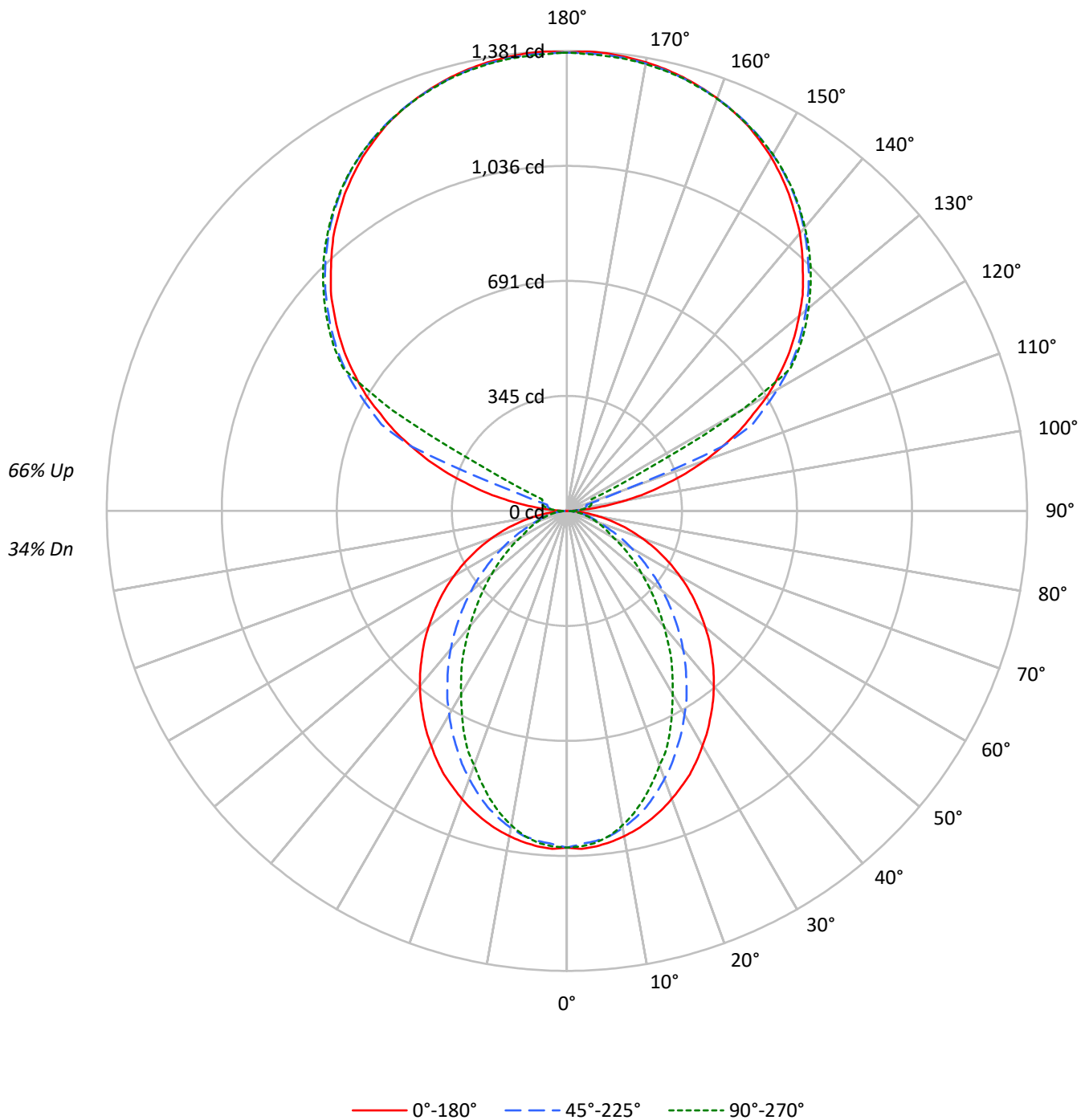
Lumens per Lamp: N/A
Luminaire Lumens: 6114.8 lumens
Efficiency: N/A
Efficacy: 101.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 60.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9963
Total Harmonic Distortion (THDi): 0.065
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P917119

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US930-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P917119

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US930-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	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°	2223	2223	2223
5°	2223	2183	2198
10°	2197	2135	2124
15°	2163	2060	2010
20°	2119	1958	1872
25°	2074	1845	1739
30°	2015	1729	1571
35°	1957	1605	1424
40°	1898	1478	1255
45°	1829	1337	1102
50°	1758	1195	953
55°	1683	1044	811
60°	1597	887	664
65°	1497	728	594
70°	1376	580	534
75°	1223	502	479
80°	1005	408	406
85°	654	254	289

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1829 cd/sqm

TEST NUMBER: P917119

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US930-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.7	1.5
10°-20°	260.1	4.3
20°-30°	365.1	6.0
30°-40°	398.0	6.5
40°-50°	365.8	6.0
50°-60°	287.3	4.7
60°-70°	187.0	3.1
70°-80°	96.3	1.6
80°-90°	27.0	0.4
90°-100°	45.4	0.7
100°-110°	169.1	2.8
110°-120°	448.5	7.3
120°-130°	743.9	12.2
130°-140°	790.2	12.9
140°-150°	734.4	12.0
150°-160°	590.4	9.7
160°-170°	380.5	6.2
170°-180°	130.9	2.1
0°-30°	720.0	11.8
0°-40°	1118.0	18.3
0°-60°	1771.2	29.0
0°-90°	2081.4	34.0
90°-120°	663.0	10.8
90°-150°	2931.5	47.9
90°-180°	4033.0	66.0
0°-180°	6114.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1011	1011	1011	1011	1011	
5°	1011	1006	994	1003	1000	96
15°	962	951	920	903	894	271
25°	873	843	783	746	732	401
35°	752	705	625	567	547	471
45°	615	553	458	392	370	475
55°	467	396	297	242	225	418
65°	316	242	159	128	125	313
75°	168	104	73	67	66	178
85°	39	20	17	17	17	45
90°	1	12	20	25	27	6
95°	65	32	39	44	43	77
105°	303	333	61	72	76	323
115°	572	589	614	153	82	564
125°	809	822	841	848	851	722
135°	1002	1018	1026	1036	1034	774
145°	1162	1161	1178	1185	1180	727
155°	1279	1270	1282	1288	1280	589
165°	1348	1342	1345	1352	1345	381
175°	1379	1372	1374	1381	1371	131
180°	1376	1376	1376	1376	1376	

TEST NUMBER: P917119

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US930-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1010.9	1010.9	1010.9	1010.9	1010.9
2.5°	1015.5	1010.9	1000.8	1010.0	1008.2
5°	1010.9	1006.3	994.4	1002.7	999.9
7.5°	1002.7	997.2	984.4	988.0	983.4
10°	991.6	985.3	967.0	964.2	958.8
12.5°	978.0	969.7	945.0	939.5	929.4
15°	961.5	951.4	920.3	902.9	893.8
17.5°	942.2	927.6	889.2	869.1	854.4
20°	920.3	902.0	856.2	833.5	813.3
22.5°	896.6	875.5	822.4	791.3	777.6
25°	872.8	843.4	783.1	745.6	731.8
27.5°	844.4	813.3	746.5	703.5	682.4
30°	814.2	779.4	706.2	659.7	634.9
32.5°	784.9	742.8	667.9	612.9	590.0
35°	752.0	705.3	624.8	567.2	547.1
37.5°	720.0	669.6	584.6	521.4	498.6
40°	686.2	631.3	542.5	477.5	453.8
42.5°	651.3	592.9	500.4	432.7	409.9
45°	614.8	553.4	457.5	392.4	370.5
47.5°	580.0	515.1	416.3	351.2	331.2
50°	541.6	476.6	376.0	312.8	293.7
52.5°	504.0	435.5	337.6	277.2	259.8
55°	467.4	396.1	297.3	242.5	225.1
57.5°	430.0	356.8	261.7	210.4	195.8
60°	391.5	318.4	224.1	177.5	162.9
62.5°	354.1	280.9	192.1	148.2	141.0
65°	315.6	241.5	159.1	128.1	125.3
67.5°	279.1	204.9	128.1	112.5	109.7
70°	240.6	169.3	106.1	96.9	93.3
72.5°	204.0	136.2	88.7	81.4	79.6
75°	168.3	104.3	73.2	66.8	65.9
77.5°	132.6	74.0	57.6	54.0	52.1
80°	99.7	53.1	43.9	40.3	40.3
82.5°	69.5	35.7	30.2	28.4	28.4
85°	39.3	20.1	17.4	17.4	17.4
87.5°	14.7	7.3	7.3	6.4	6.4
90°	1.0	11.9	19.9	24.9	26.8
92.5°	24.9	21.0	23.9	25.9	26.8
95°	64.7	31.8	38.8	43.9	42.8
97.5°	116.4	34.9	50.7	53.8	54.7
100°	176.3	39.9	56.7	64.7	66.7
102.5°	241.9	239.9	58.8	69.6	72.7
105°	302.6	332.6	60.7	71.7	75.7
107.5°	373.3	398.1	62.8	73.6	77.7
110°	441.1	461.9	174.2	74.7	78.6

TEST NUMBER: P917119

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US930-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	504.8	522.6	505.7	76.6	79.7
115°	572.4	589.3	614.2	153.4	81.7
117.5°	631.1	651.0	668.1	525.5	264.8
120°	696.8	711.8	729.7	741.7	607.2
122.5°	752.5	768.5	788.5	794.4	795.5
125°	809.3	822.3	841.2	848.2	851.2
127.5°	861.0	875.0	890.1	899.9	900.9
130°	909.9	925.9	936.7	947.7	946.8
132.5°	959.7	972.7	983.5	992.5	991.6
135°	1001.5	1017.5	1026.3	1036.4	1034.4
137.5°	1045.2	1057.2	1067.2	1077.2	1074.2
140°	1088.0	1096.1	1106.9	1115.9	1111.0
142.5°	1124.0	1131.0	1143.9	1151.8	1146.8
145°	1161.8	1160.7	1177.6	1184.6	1179.7
147.5°	1194.6	1191.6	1208.5	1213.5	1209.6
150°	1226.5	1219.5	1235.4	1241.4	1236.4
152.5°	1253.3	1245.4	1260.3	1266.3	1259.3
155°	1279.2	1270.3	1282.2	1288.2	1280.3
157.5°	1300.1	1292.2	1301.1	1308.1	1300.1
160°	1318.1	1312.1	1318.1	1324.0	1317.0
162.5°	1333.9	1328.0	1332.9	1339.9	1331.0
165°	1347.9	1342.0	1344.9	1351.8	1344.9
167.5°	1358.9	1352.8	1355.9	1362.9	1353.9
170°	1367.8	1361.8	1363.8	1370.8	1361.8
172.5°	1373.8	1367.8	1369.9	1376.8	1367.8
175°	1378.8	1371.7	1373.8	1380.7	1370.8
177.5°	1380.7	1373.8	1374.8	1381.8	1372.8
180°	1375.7	1375.7	1375.7	1375.7	1375.7

TEST NUMBER: P917119

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US930-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	8.10	8.82	9.19	9.90	11.39	4.06	4.78	5.15	5.86	7.35
	3H	9.75	10.39	10.85	11.48	12.99	5.22	5.86	6.32	6.95	8.46
	4H	10.34	10.95	11.45	12.04	13.55	5.66	6.26	6.76	7.36	8.86
	6H	10.74	11.30	11.86	12.40	13.91	5.95	6.51	7.07	7.61	9.13
	8H	10.86	11.39	11.98	12.50	14.01	6.03	6.56	7.15	7.68	9.19
	12H	10.91	11.41	12.03	12.51	14.05	6.07	6.57	7.19	7.67	9.21
4H	2H	8.10	8.71	9.22	9.80	11.31	4.63	5.24	5.75	6.33	7.84
	3H	9.90	10.40	11.02	11.52	13.04	5.95	6.45	7.07	7.57	9.10
	4H	10.57	11.03	11.69	12.14	13.68	6.48	6.94	7.60	8.05	9.59
	6H	11.06	11.46	12.19	12.59	14.12	6.87	7.27	8.00	8.40	9.93
	8H	11.22	11.59	12.35	12.72	14.26	6.99	7.36	8.12	8.48	10.03
	12H	11.30	11.64	12.45	12.77	14.33	7.04	7.37	8.19	8.51	10.06
8H	4H	10.52	10.89	11.66	12.02	13.57	6.74	7.11	7.87	8.23	9.78
	6H	11.06	11.37	12.22	12.54	14.08	7.23	7.53	8.38	8.70	10.25
	8H	11.27	11.53	12.43	12.68	14.25	7.41	7.67	8.56	8.82	10.38
	12H	11.39	11.62	12.55	12.76	14.37	7.51	7.74	8.67	8.88	10.48
12H	4H	10.47	10.81	11.62	11.94	13.50	6.74	7.07	7.88	8.21	9.76
	6H	11.04	11.30	12.20	12.45	14.02	7.27	7.54	8.43	8.69	10.25
	8H	11.24	11.47	12.40	12.62	14.22	7.46	7.70	8.62	8.84	10.44

END OF REPORT