

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: P925323

Luminaire Tested: DFN2DIP-SQ2F0-040D040US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925323
REPORT IS A COMBINATION OF REPORTS P901306 AND P898215
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-040D040US950-RLLONL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

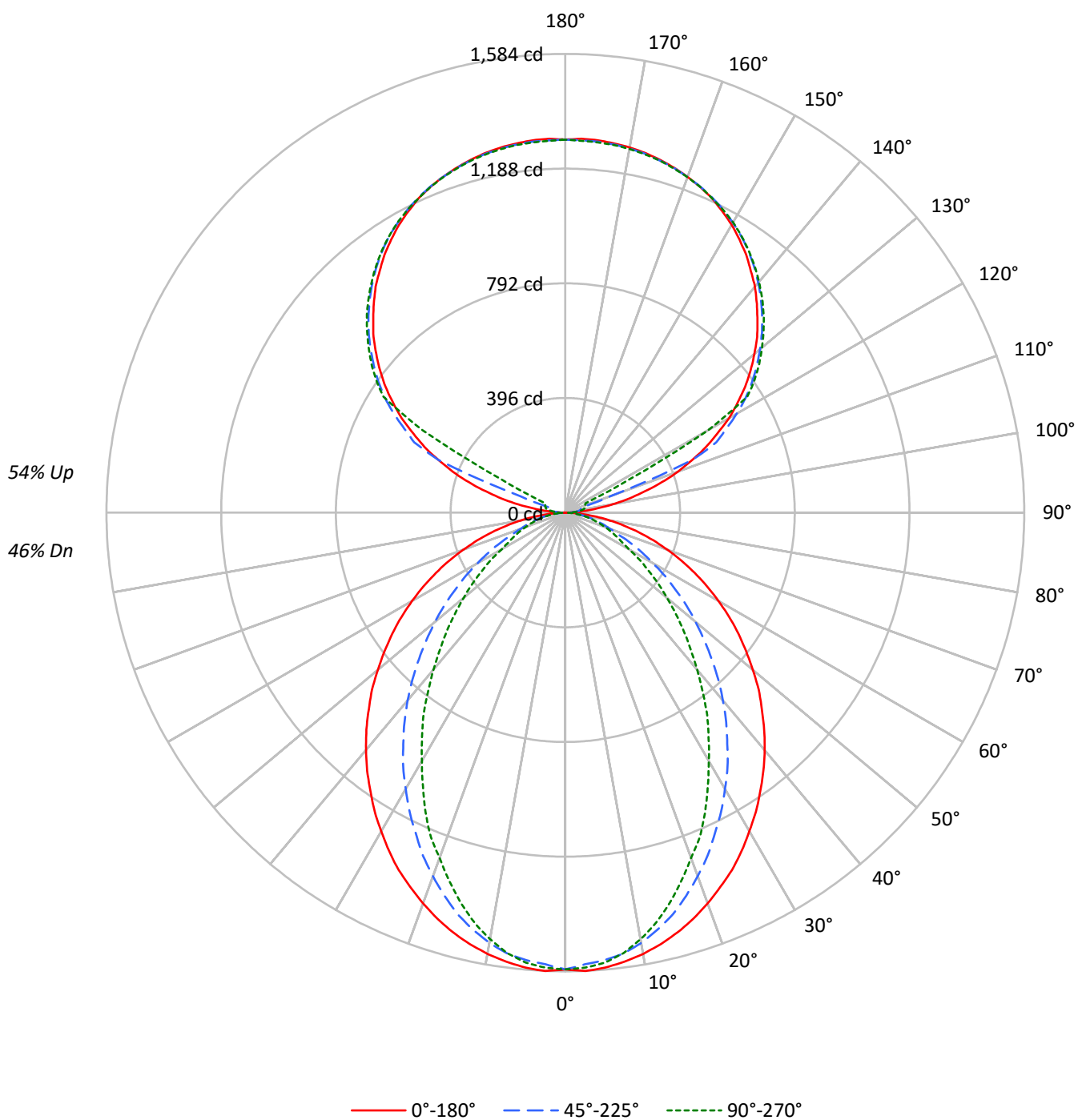
Lumens per Lamp: N/A
Luminaire Lumens: 7021.4 lumens
Efficiency: N/A
Efficacy: 111.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 63.2
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: P925323

CATALOG NUMBER: DFN2DIP-SQ2F0-040D040US950-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P925323

CATALOG NUMBER: DFN2DIP-SQ2F0-040D040US950-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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	47	46	45
2	89	82	76	71	82	76	70	66	63	60	57	52	50	48	42	40	39
3	81	72	65	60	75	67	61	56	56	52	48	47	43	41	38	35	34
4	75	64	57	51	68	60	53	48	50	45	41	42	38	35	34	31	29
5	69	58	50	44	63	53	46	41	45	40	36	38	34	31	31	28	26
6	63	52	44	38	58	48	41	36	41	36	32	34	30	27	28	25	23
7	59	47	39	34	54	44	37	32	37	32	28	31	27	24	26	23	21
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19
9	51	39	32	27	47	36	30	25	31	26	22	27	23	20	22	19	17
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	20	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3468	3468	3468
5°	3468	3405	3430
10°	3427	3331	3314
15°	3374	3214	3137
20°	3306	3055	2921
25°	3235	2878	2713
30°	3143	2698	2451
35°	3053	2505	2221
40°	2961	2306	1958
45°	2854	2086	1720
50°	2743	1865	1487
55°	2626	1629	1265
60°	2491	1384	1036
65°	2336	1136	927
70°	2147	905	832
75°	1908	783	747
80°	1567	636	634
85°	1020	395	451

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2854 cd/sqm

TEST NUMBER: P925323

CATALOG NUMBER: DFN2DIP-SQ2F0-040D040US950-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.8	2.1
10°-20°	405.8	5.8
20°-30°	569.7	8.1
30°-40°	621.0	8.8
40°-50°	570.8	8.1
50°-60°	448.2	6.4
60°-70°	291.8	4.2
70°-80°	150.2	2.1
80°-90°	40.6	0.6
90°-100°	42.5	0.6
100°-110°	158.3	2.3
110°-120°	419.9	6.0
120°-130°	696.4	9.9
130°-140°	739.7	10.5
140°-150°	687.5	9.8
150°-160°	552.7	7.9
160°-170°	356.1	5.1
170°-180°	122.6	1.7
0°-30°	1123.3	16.0
0°-40°	1744.3	24.8
0°-60°	2763.3	39.4
0°-90°	3245.9	46.2
90°-120°	620.6	8.8
90°-150°	2744.1	39.1
90°-180°	3776.0	53.8
0°-180°	7021.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1577	1577	1577	1577	1577	
5°	1577	1570	1551	1564	1560	150
15°	1500	1484	1436	1409	1395	423
25°	1362	1316	1222	1163	1142	626
35°	1173	1100	975	885	853	734
45°	959	864	714	612	578	741
55°	729	618	464	378	351	652
65°	492	377	248	200	196	488
75°	262	163	114	104	103	278
85°	61	31	27	27	27	70
90°	1	11	19	23	25	7
95°	60	30	36	41	40	72
105°	283	311	57	67	71	303
115°	536	552	575	144	76	527
125°	758	770	787	794	797	676
135°	938	952	961	970	968	724
145°	1088	1087	1102	1109	1104	680
155°	1198	1189	1200	1206	1198	552
165°	1262	1256	1259	1266	1259	356
175°	1291	1284	1286	1292	1283	123
180°	1288	1288	1288	1288	1288	

TEST NUMBER: P925323

CATALOG NUMBER: DFN2DIP-SQ2F0-040D040US950-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1577.2	1577.2	1577.2	1577.2	1577.2
2.5°	1584.3	1577.2	1561.4	1575.8	1572.9
5°	1577.2	1570.0	1551.4	1564.3	1560.1
7.5°	1564.3	1555.8	1535.8	1541.4	1534.3
10°	1547.2	1537.2	1508.7	1504.3	1495.9
12.5°	1525.8	1512.9	1474.3	1465.8	1450.1
15°	1500.1	1484.3	1435.9	1408.8	1394.6
17.5°	1470.1	1447.2	1387.2	1355.9	1333.0
20°	1435.9	1407.2	1335.9	1300.3	1268.8
22.5°	1398.8	1365.9	1283.0	1234.6	1213.3
25°	1361.6	1315.9	1221.7	1163.3	1141.7
27.5°	1317.5	1268.8	1164.6	1097.6	1064.7
30°	1270.3	1216.0	1101.8	1029.1	990.5
32.5°	1224.6	1158.9	1042.0	956.3	920.5
35°	1173.3	1100.4	974.9	884.9	853.4
37.5°	1123.3	1044.7	912.0	813.5	777.9
40°	1070.5	984.9	846.4	745.1	708.0
42.5°	1016.2	924.9	780.8	675.1	639.5
45°	959.2	863.5	713.7	612.3	578.0
47.5°	905.0	803.6	649.5	548.1	516.7
50°	845.0	743.6	586.6	488.1	458.2
52.5°	786.4	679.3	526.7	432.4	405.4
55°	729.3	618.0	463.8	378.3	351.2
57.5°	670.9	556.7	408.2	328.3	305.5
60°	610.8	496.7	349.6	276.9	254.1
62.5°	552.5	438.3	299.7	231.2	219.9
65°	492.5	376.7	248.3	199.9	195.5
67.5°	435.4	319.7	199.9	175.5	171.2
70°	375.4	264.1	165.5	151.3	145.5
72.5°	318.3	212.6	138.4	127.1	124.2
75°	262.5	162.7	114.2	104.2	102.8
77.5°	207.0	115.5	90.0	84.2	81.3
80°	155.5	82.8	68.4	62.9	62.9
82.5°	108.5	55.7	47.1	44.2	44.2
85°	61.3	31.4	27.1	27.1	27.1
87.5°	22.9	11.4	11.4	10.0	10.0
90°	0.9	11.2	18.6	23.4	25.1
92.5°	23.4	19.6	22.3	24.2	25.1
95°	60.5	29.8	36.3	41.0	40.1
97.5°	109.0	32.6	47.5	50.4	51.2
100°	164.9	37.3	53.1	60.5	62.4
102.5°	226.4	224.7	55.0	65.2	68.0
105°	283.2	311.3	56.9	67.1	70.8
107.5°	349.5	372.7	58.8	69.0	72.7
110°	412.9	432.4	163.1	69.9	73.6

TEST NUMBER: P925323

CATALOG NUMBER: DFN2DIP-SQ2F0-040D040US950-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	472.5	489.2	473.4	71.7	74.6
115°	535.8	551.6	575.0	143.5	76.5
117.5°	590.8	609.4	625.3	492.0	247.8
120°	652.3	666.3	683.1	694.3	568.5
122.5°	704.4	719.4	738.1	743.6	744.6
125°	757.6	769.8	787.4	794.0	796.8
127.5°	806.0	819.1	833.1	842.5	843.3
130°	851.7	866.7	876.8	887.1	886.3
132.5°	898.3	910.5	920.7	929.1	928.2
135°	937.5	952.5	960.8	970.1	968.3
137.5°	978.4	989.6	999.0	1008.3	1005.5
140°	1018.5	1026.0	1036.2	1044.6	1040.0
142.5°	1052.2	1058.7	1070.8	1078.1	1073.5
145°	1087.6	1086.6	1102.3	1108.9	1104.3
147.5°	1118.2	1115.4	1131.3	1135.9	1132.3
150°	1148.0	1141.6	1156.5	1162.1	1157.4
152.5°	1173.2	1165.8	1179.7	1185.3	1178.9
155°	1197.5	1189.2	1200.3	1205.9	1198.4
157.5°	1217.0	1209.6	1218.1	1224.6	1217.0
160°	1233.8	1228.2	1233.8	1239.3	1232.9
162.5°	1248.7	1243.2	1247.8	1254.3	1245.9
165°	1261.8	1256.2	1259.0	1265.5	1259.0
167.5°	1272.1	1266.3	1269.3	1275.8	1267.4
170°	1280.5	1274.8	1276.6	1283.2	1274.8
172.5°	1286.0	1280.5	1282.4	1288.9	1280.5
175°	1290.6	1284.1	1286.0	1292.5	1283.2
177.5°	1292.5	1286.0	1286.9	1293.5	1285.1
180°	1287.9	1287.9	1287.9	1287.9	1287.9

TEST NUMBER: P925323

CATALOG NUMBER: DFN2DIP-SQ2F0-040D040US950-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	10.99	11.79	11.99	12.79	14.12	6.95	7.75	7.95	8.75	10.08
	3H	12.65	13.36	13.65	14.37	15.72	8.12	8.83	9.12	9.85	11.19
	4H	13.24	13.92	14.26	14.93	16.29	8.55	9.23	9.57	10.25	11.60
	6H	13.64	14.27	14.67	15.29	16.65	8.86	9.48	9.89	10.50	11.87
	8H	13.76	14.35	14.80	15.39	16.75	8.94	9.53	9.97	10.57	11.93
	12H	13.81	14.38	14.85	15.41	16.79	8.97	9.54	10.01	10.56	11.95
4H	2H	11.00	11.68	12.02	12.69	14.05	7.53	8.21	8.56	9.22	10.58
	3H	12.80	13.37	13.84	14.41	15.78	8.86	9.42	9.89	10.46	11.83
	4H	13.48	13.99	14.52	15.03	16.42	9.39	9.90	10.43	10.94	12.33
	6H	13.97	14.42	15.02	15.47	16.86	9.79	10.23	10.84	11.29	12.68
	8H	14.14	14.55	15.19	15.60	17.00	9.91	10.32	10.96	11.37	12.77
	12H	14.22	14.59	15.29	15.66	17.07	9.96	10.33	11.03	11.40	12.80
8H	4H	13.44	13.85	14.49	14.90	16.31	9.66	10.07	10.71	11.12	12.52
	6H	13.98	14.32	15.06	15.42	16.82	10.15	10.49	11.22	11.58	12.98
	8H	14.19	14.49	15.27	15.56	16.98	10.33	10.62	11.41	11.70	13.12
	12H	14.31	14.57	15.39	15.65	17.11	10.43	10.69	11.51	11.76	13.22
12H	4H	13.39	13.76	14.46	14.83	16.24	9.66	10.03	10.72	11.09	12.50
	6H	13.96	14.26	15.04	15.33	16.75	10.19	10.49	11.27	11.57	12.99
	8H	14.16	14.43	15.25	15.50	16.96	10.39	10.65	11.47	11.72	13.18