

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: P903479

Luminaire Tested: DFN2DIP-SQ2F0-030D050US830-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P903479
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-SQ2F0-030D050US830-RLLONL
Description: 2 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

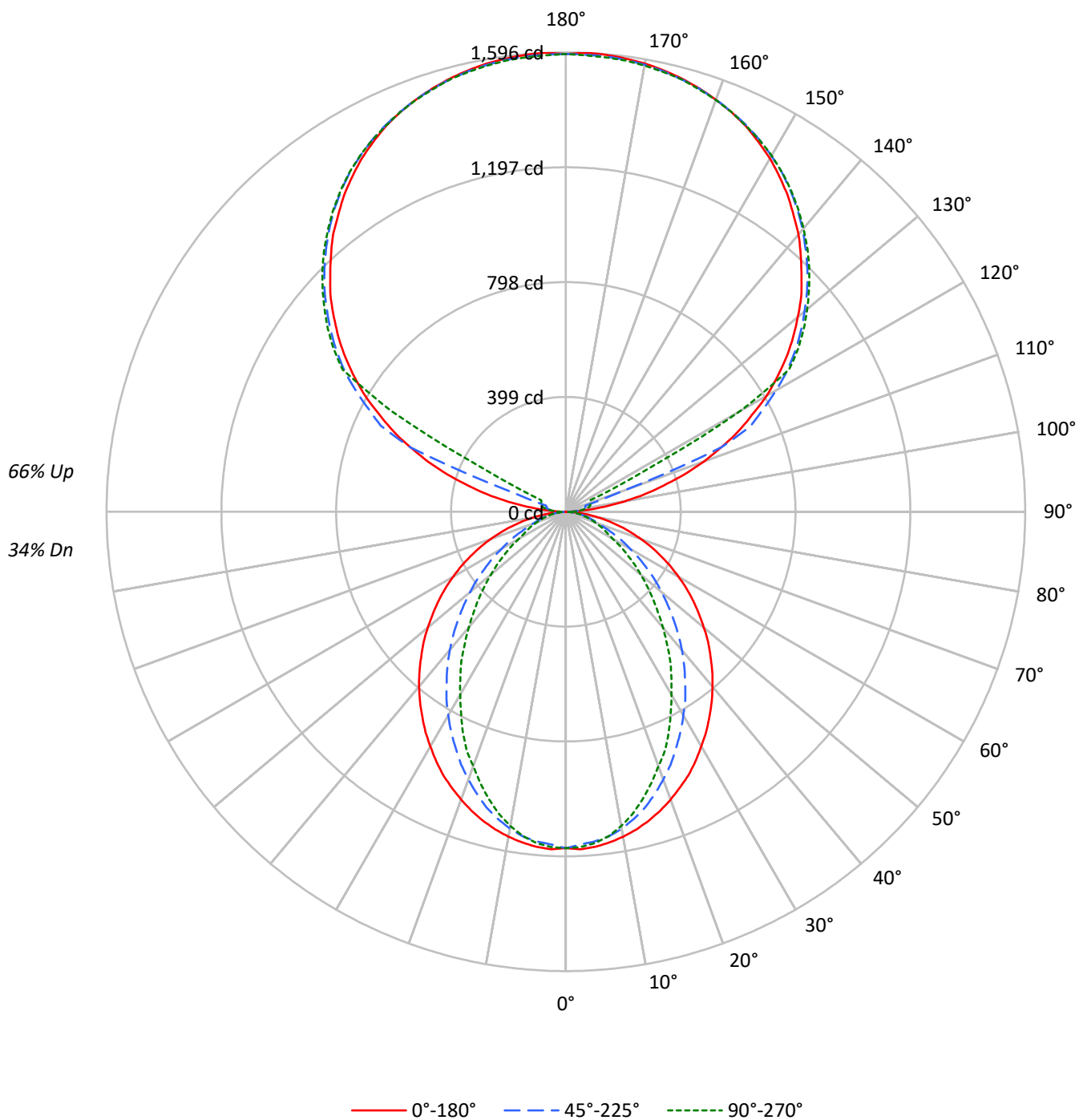
Lumens per Lamp: N/A
Luminaire Lumens: 7069.1 lumens
Efficiency: N/A
Efficacy: 116.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: Semi-Indirect

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: P903479

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US830-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P903479

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US830-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°	2570	2570	2570
5°	2569	2523	2541
10°	2539	2468	2455
15°	2500	2381	2324
20°	2449	2264	2164
25°	2398	2133	2010
30°	2329	1999	1816
35°	2262	1856	1646
40°	2194	1709	1451
45°	2115	1546	1274
50°	2032	1382	1102
55°	1946	1207	937
60°	1846	1026	768
65°	1731	842	687
70°	1590	670	617
75°	1414	580	554
80°	1162	471	470
85°	755	293	334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2115 cd/sqm

TEST NUMBER: P903479

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US830-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.5	1.5
10°-20°	300.7	4.3
20°-30°	422.1	6.0
30°-40°	460.2	6.5
40°-50°	422.9	6.0
50°-60°	332.2	4.7
60°-70°	216.2	3.1
70°-80°	111.3	1.6
80°-90°	31.2	0.4
90°-100°	52.5	0.7
100°-110°	195.5	2.8
110°-120°	518.5	7.3
120°-130°	860.0	12.2
130°-140°	913.5	12.9
140°-150°	849.0	12.0
150°-160°	682.6	9.7
160°-170°	439.8	6.2
170°-180°	151.4	2.1
0°-30°	832.3	11.8
0°-40°	1292.5	18.3
0°-60°	2047.6	29.0
0°-90°	2406.3	34.0
90°-120°	766.5	10.8
90°-150°	3389.0	47.9
90°-180°	4663.0	66.0
0°-180°	7069.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1169	1169	1169	1169	1169	
5°	1169	1163	1150	1159	1156	111
15°	1112	1100	1064	1044	1033	313
25°	1009	975	905	862	846	464
35°	869	815	722	656	632	544
45°	711	640	529	454	428	549
55°	540	458	344	280	260	483
65°	365	279	184	148	145	362
75°	194	121	85	77	76	206
85°	45	23	20	20	20	52
90°	1	14	23	29	31	7
95°	75	37	45	51	50	89
105°	350	384	70	83	88	374
115°	662	681	710	177	94	651
125°	936	951	972	980	984	834
135°	1158	1176	1186	1198	1196	894
145°	1343	1342	1361	1370	1364	840
155°	1479	1469	1482	1489	1480	681
165°	1558	1551	1555	1563	1555	440
175°	1594	1586	1588	1596	1585	152
180°	1590	1590	1590	1590	1590	

TEST NUMBER: P903479

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US830-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1168.7	1168.7	1168.7	1168.7	1168.7
2.5°	1173.9	1168.7	1157.0	1167.6	1165.5
5°	1168.7	1163.4	1149.6	1159.1	1155.9
7.5°	1159.1	1152.8	1138.0	1142.2	1136.9
10°	1146.4	1139.1	1117.9	1114.7	1108.4
12.5°	1130.6	1121.1	1092.5	1086.2	1074.5
15°	1111.5	1099.9	1063.9	1043.9	1033.3
17.5°	1089.3	1072.4	1027.9	1004.8	987.8
20°	1063.9	1042.7	989.9	963.6	940.2
22.5°	1036.5	1012.1	950.7	914.8	899.0
25°	1009.0	975.1	905.3	862.0	846.0
27.5°	976.2	940.2	863.0	813.3	788.9
30°	941.3	901.1	816.4	762.6	734.0
32.5°	907.4	858.8	772.1	708.6	682.1
35°	869.4	815.4	722.4	655.7	632.4
37.5°	832.4	774.1	675.8	602.8	576.5
40°	793.2	729.8	627.2	552.0	524.6
42.5°	753.0	685.4	578.5	500.2	473.8
45°	710.8	639.8	528.9	453.6	428.3
47.5°	670.5	595.5	481.3	406.0	382.9
50°	626.1	551.0	434.7	361.7	339.5
52.5°	582.7	503.4	390.3	320.5	300.4
55°	540.4	457.9	343.7	280.3	260.2
57.5°	497.1	412.5	302.6	243.3	226.3
60°	452.6	368.1	259.1	205.2	188.3
62.5°	409.3	324.7	222.1	171.4	163.0
65°	364.9	279.2	184.0	148.1	144.9
67.5°	322.6	236.9	148.1	130.1	126.9
70°	278.1	195.7	122.6	112.1	107.8
72.5°	235.8	157.5	102.5	94.2	92.0
75°	194.5	120.6	84.6	77.2	76.2
77.5°	153.4	85.6	66.6	62.4	60.2
80°	115.3	61.4	50.7	46.6	46.6
82.5°	80.3	41.3	34.9	32.8	32.8
85°	45.4	23.2	20.1	20.1	20.1
87.5°	17.0	8.4	8.4	7.4	7.4
90°	1.1	13.8	23.0	28.8	31.0
92.5°	28.8	24.2	27.6	30.0	31.0
95°	74.7	36.8	44.9	50.7	49.5
97.5°	134.6	40.3	58.6	62.2	63.2
100°	203.8	46.1	65.6	74.7	77.1
102.5°	279.7	277.4	68.0	80.5	84.1
105°	349.9	384.5	70.2	82.8	87.5
107.5°	431.6	460.2	72.6	85.1	89.8
110°	509.9	534.0	201.4	86.3	90.9

TEST NUMBER: P903479

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US830-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	583.5	604.2	584.7	88.6	92.1
115°	661.8	681.3	710.1	177.3	94.4
117.5°	729.6	752.6	772.3	607.6	306.1
120°	805.6	822.8	843.6	857.4	702.0
122.5°	870.0	888.4	911.5	918.4	919.6
125°	935.6	950.6	972.5	980.5	984.0
127.5°	995.4	1011.5	1029.0	1040.4	1041.5
130°	1051.9	1070.4	1082.9	1095.6	1094.6
132.5°	1109.5	1124.5	1137.0	1147.5	1146.3
135°	1157.8	1176.3	1186.5	1198.2	1195.8
137.5°	1208.3	1222.2	1233.8	1245.3	1241.9
140°	1257.8	1267.2	1279.7	1290.1	1284.4
142.5°	1299.4	1307.5	1322.4	1331.5	1325.8
145°	1343.1	1341.9	1361.4	1369.5	1363.8
147.5°	1381.0	1377.5	1397.1	1402.9	1398.4
150°	1417.9	1409.9	1428.2	1435.1	1429.4
152.5°	1448.9	1439.7	1457.0	1464.0	1455.9
155°	1478.8	1468.6	1482.3	1489.2	1480.1
157.5°	1503.0	1493.8	1504.2	1512.3	1503.0
160°	1523.8	1516.8	1523.8	1530.6	1522.6
162.5°	1542.1	1535.3	1541.0	1549.1	1538.7
165°	1558.2	1551.4	1554.8	1562.8	1554.8
167.5°	1570.9	1564.0	1567.5	1575.6	1565.2
170°	1581.3	1574.3	1576.7	1584.7	1574.3
172.5°	1588.2	1581.3	1583.7	1591.7	1581.3
175°	1593.9	1585.8	1588.2	1596.2	1584.7
177.5°	1596.2	1588.2	1589.4	1597.4	1587.1
180°	1590.4	1590.4	1590.4	1590.4	1590.4

TEST NUMBER: P903479

CATALOG NUMBER: DFN2DIP-SQ2F0-030D050US830-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	8.61	9.32	9.69	10.40	11.89	4.57	5.28	5.66	6.37	7.85
	3H	10.26	10.89	11.35	11.99	13.49	5.73	6.37	6.83	7.46	8.96
	4H	10.85	11.45	11.95	12.54	14.05	6.16	6.77	7.27	7.86	9.37
	6H	11.25	11.80	12.36	12.90	14.42	6.46	7.02	7.58	8.11	9.63
	8H	11.36	11.89	12.48	13.00	14.51	6.54	7.07	7.66	8.18	9.69
	12H	11.41	11.91	12.53	13.02	14.55	6.57	7.07	7.69	8.18	9.71
4H	2H	8.61	9.21	9.72	10.31	11.81	5.14	5.74	6.25	6.84	8.35
	3H	10.40	10.91	11.52	12.03	13.55	6.46	6.96	7.58	8.08	9.60
	4H	11.07	11.54	12.20	12.65	14.19	6.98	7.45	8.11	8.56	10.10
	6H	11.56	11.96	12.70	13.09	14.63	7.38	7.77	8.51	8.91	10.44
	8H	11.73	12.10	12.86	13.22	14.77	7.49	7.86	8.62	8.99	10.54
	12H	11.80	12.14	12.95	13.28	14.83	7.54	7.88	8.69	9.01	10.57
8H	4H	11.03	11.40	12.16	12.52	14.07	7.24	7.61	8.37	8.74	10.29
	6H	11.57	11.87	12.72	13.04	14.59	7.73	8.04	8.89	9.21	10.75
	8H	11.77	12.04	12.93	13.18	14.75	7.91	8.18	9.07	9.32	10.89
	12H	11.89	12.13	13.05	13.27	14.87	8.01	8.24	9.17	9.39	10.99
12H	4H	10.97	11.31	12.12	12.45	14.00	7.24	7.57	8.39	8.71	10.26
	6H	11.54	11.81	12.70	12.96	14.52	7.78	8.04	8.93	9.19	10.76
	8H	11.74	11.98	12.90	13.12	14.72	7.97	8.20	9.13	9.34	10.94

END OF REPORT