

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: P913831

Luminaire Tested: DFN2DIP-PN2F0-050D040US927-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913831
REPORT IS A COMBINATION OF REPORTS P901008 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-050D040US927-RLLONL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

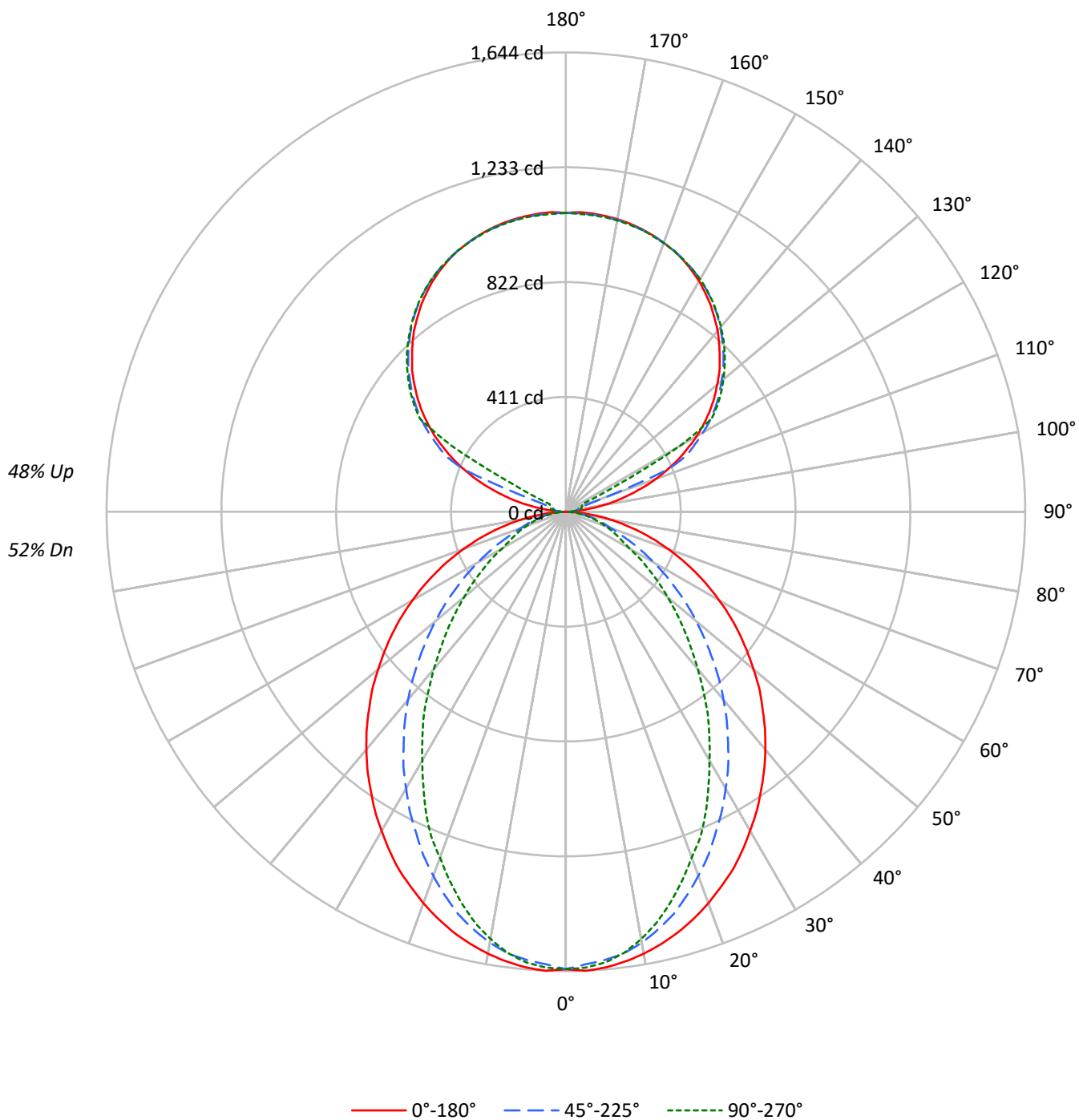
Lumens per Lamp: N/A
Luminaire Lumens: 6503.8 lumens
Efficiency: N/A
Efficacy: 79.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 82
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P913831

CATALOG NUMBER: DFN2DIP-PN2F0-050D040US927-RLLONL

Luminous Intensity Polar Plot



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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	99	99	99	99	84	84	84	70	70	70	58	58	58
1	99	95	91	87	91	88	84	82	75	72	70	63	61	60	52	51	50
2	90	83	77	72	83	77	72	68	66	62	59	56	53	51	46	44	43
3	83	74	66	61	76	68	62	57	59	54	50	50	46	43	41	39	37
4	76	65	58	52	70	61	54	49	52	47	43	45	41	38	37	35	32
5	70	59	51	45	64	55	48	42	47	42	38	40	36	33	34	31	28
6	65	53	45	39	60	49	42	37	43	37	33	37	32	29	31	28	25
7	60	48	40	35	55	45	38	33	39	33	29	33	29	26	28	25	23
8	56	44	36	31	51	41	34	29	36	30	26	31	26	23	26	23	20
9	52	40	32	28	48	37	31	26	33	27	24	28	24	21	24	21	19
10	48	37	30	25	45	34	28	24	30	25	21	26	22	19	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3546	3546	3546
5°	3546	3482	3506
10°	3505	3406	3387
15°	3451	3286	3206
20°	3381	3124	2986
25°	3310	2943	2773
30°	3216	2759	2505
35°	3124	2562	2269
40°	3030	2358	2000
45°	2922	2134	1757
50°	2809	1907	1519
55°	2690	1667	1292
60°	2553	1416	1058
65°	2395	1163	947
70°	2203	926	850
75°	1961	802	762
80°	1613	652	645
85°	1055	405	458

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2922 cd/sqm

TEST NUMBER: P913831

CATALOG NUMBER: DFN2DIP-PN2F0-050D040US927-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.4	2.4
10°-20°	421.2	6.5
20°-30°	591.3	9.1
30°-40°	644.6	9.9
40°-50°	592.4	9.1
50°-60°	465.3	7.2
60°-70°	302.9	4.7
70°-80°	155.9	2.4
80°-90°	41.7	0.6
90°-100°	35.2	0.5
100°-110°	131.5	2.0
110°-120°	348.6	5.4
120°-130°	578.2	8.9
130°-140°	614.2	9.4
140°-150°	570.9	8.8
150°-160°	458.9	7.1
160°-170°	295.7	4.5
170°-180°	101.8	1.6
0°-30°	1165.9	17.9
0°-40°	1810.5	27.8
0°-60°	2868.2	44.1
0°-90°	3368.7	51.8
90°-120°	515.3	7.9
90°-150°	2278.7	35.0
90°-180°	3135.0	48.2
0°-180°	6503.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1637	1637	1637	1637	1637	
5°	1637	1630	1610	1624	1619	155
15°	1557	1541	1490	1462	1448	439
25°	1413	1366	1268	1207	1185	650
35°	1218	1142	1012	918	886	762
45°	996	896	741	636	600	769
55°	757	641	481	393	364	676
65°	511	391	258	208	203	507
75°	273	169	118	108	107	288
85°	64	33	28	28	28	73
90°	1	9	15	19	21	6
95°	50	25	30	34	33	60
105°	235	258	47	56	59	251
115°	445	458	477	119	64	438
125°	629	639	654	659	662	561
135°	778	791	798	806	804	601
145°	903	902	915	921	917	565
155°	994	988	997	1001	995	458
165°	1048	1043	1045	1051	1045	296
175°	1072	1066	1068	1073	1066	102
180°	1069	1069	1069	1069	1069	

TEST NUMBER: P913831

CATALOG NUMBER: DFN2DIP-PN2F0-050D040US927-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1637.0	1637.0	1637.0	1637.0	1637.0
2.5°	1644.4	1637.0	1620.7	1635.6	1632.6
5°	1637.0	1629.7	1610.3	1623.7	1619.3
7.5°	1623.7	1614.9	1594.1	1600.0	1592.5
10°	1605.9	1595.5	1566.0	1561.5	1552.6
12.5°	1583.7	1570.4	1530.3	1521.5	1505.1
15°	1557.0	1540.7	1490.4	1462.3	1447.5
17.5°	1525.9	1502.2	1439.9	1407.4	1383.6
20°	1490.4	1460.7	1386.6	1349.7	1317.0
22.5°	1451.9	1417.8	1331.8	1281.5	1259.3
25°	1413.3	1365.9	1268.1	1207.4	1185.1
27.5°	1367.5	1317.0	1208.9	1139.2	1105.2
30°	1318.6	1262.2	1143.7	1068.2	1028.1
32.5°	1271.1	1202.9	1081.6	992.6	955.5
35°	1217.8	1142.2	1011.9	918.5	885.9
37.5°	1165.9	1084.4	946.7	844.4	807.5
40°	1111.1	1022.3	878.4	773.3	734.8
42.5°	1054.9	960.0	810.4	700.7	663.8
45°	995.6	896.3	740.8	635.5	599.9
47.5°	939.3	834.2	674.1	568.9	536.3
50°	877.1	771.9	608.9	506.6	475.6
52.5°	816.3	705.1	546.7	448.9	420.8
55°	757.0	641.4	481.4	392.6	364.5
57.5°	696.3	577.8	423.7	340.8	317.0
60°	634.1	515.6	362.9	287.5	263.7
62.5°	573.4	454.9	311.1	240.0	228.2
65°	511.1	391.1	257.8	207.5	203.0
67.5°	451.9	331.8	207.5	182.2	177.8
70°	389.7	274.1	171.8	157.0	151.1
72.5°	330.4	220.7	143.7	131.9	128.9
75°	272.6	168.8	118.5	108.1	106.7
77.5°	214.8	119.9	93.4	87.4	84.4
80°	161.4	86.0	71.1	65.2	65.2
82.5°	112.6	57.8	48.9	45.9	45.9
85°	63.7	32.6	28.1	28.1	28.1
87.5°	23.8	11.8	11.8	10.4	10.4
90°	0.7	9.3	15.4	19.4	20.8
92.5°	19.4	16.2	18.5	20.1	20.8
95°	50.2	24.7	30.1	34.1	33.3
97.5°	90.5	27.1	39.5	41.8	42.5
100°	137.0	31.0	44.1	50.2	51.8
102.5°	188.0	186.6	45.6	54.1	56.5
105°	235.2	258.5	47.2	55.7	58.8
107.5°	290.2	309.5	48.8	57.3	60.4
110°	342.9	359.0	135.5	58.1	61.1



TEST NUMBER: P913831

CATALOG NUMBER: DFN2DIP-PN2F0-050D040US927-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	392.4	406.2	393.1	59.6	61.9
115°	444.9	458.0	477.4	119.1	63.5
117.5°	490.6	506.0	519.3	408.5	205.8
120°	541.7	553.3	567.2	576.5	472.1
122.5°	584.9	597.4	612.9	617.5	618.3
125°	629.1	639.2	653.9	659.3	661.6
127.5°	669.3	680.2	691.8	699.6	700.3
130°	707.3	719.7	728.1	736.6	735.9
132.5°	745.9	756.1	764.5	771.5	770.8
135°	778.5	790.9	797.8	805.6	804.1
137.5°	812.5	821.7	829.6	837.3	835.0
140°	845.7	852.0	860.5	867.4	863.6
142.5°	873.7	879.1	889.1	895.2	891.4
145°	903.1	902.3	915.4	920.8	916.9
147.5°	928.5	926.2	939.4	943.3	940.2
150°	953.3	947.9	960.4	965.0	961.1
152.5°	974.2	968.0	979.6	984.3	978.9
155°	994.3	987.5	996.7	1001.3	995.1
157.5°	1010.6	1004.4	1011.5	1016.8	1010.6
160°	1024.5	1019.9	1024.5	1029.1	1023.7
162.5°	1036.9	1032.3	1036.2	1041.6	1034.6
165°	1047.7	1043.1	1045.4	1050.8	1045.4
167.5°	1056.3	1051.5	1054.0	1059.4	1052.4
170°	1063.3	1058.6	1060.1	1065.6	1058.6
172.5°	1067.9	1063.3	1064.8	1070.2	1063.3
175°	1071.7	1066.3	1067.9	1073.2	1065.6
177.5°	1073.2	1067.9	1068.7	1074.1	1067.1
180°	1069.4	1069.4	1069.4	1069.4	1069.4

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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	11.59	12.44	12.54	13.40	14.65	7.56	8.41	8.51	9.37	10.62
	3H	13.25	14.01	14.21	14.98	16.25	8.74	9.49	9.70	10.46	11.73
	4H	13.85	14.56	14.82	15.54	16.82	9.17	9.89	10.15	10.86	12.14
	6H	14.25	14.91	15.24	15.89	17.18	9.48	10.14	10.47	11.12	12.41
	8H	14.37	15.00	15.36	15.99	17.28	9.56	10.19	10.56	11.18	12.47
	12H	14.43	15.02	15.42	16.01	17.32	9.60	10.20	10.60	11.18	12.50
4H	2H	11.61	12.32	12.59	13.30	14.58	8.15	8.86	9.13	9.84	11.12
	3H	13.42	14.01	14.41	15.01	16.31	9.48	10.07	10.47	11.08	12.37
	4H	14.09	14.64	15.09	15.63	16.95	10.01	10.56	11.01	11.55	12.87
	6H	14.59	15.06	15.60	16.08	17.39	10.42	10.88	11.43	11.90	13.22
	8H	14.75	15.19	15.76	16.20	17.53	10.54	10.97	11.55	11.98	13.31
	12H	14.84	15.23	15.87	16.26	17.59	10.59	10.98	11.62	12.01	13.35
8H	4H	14.06	14.49	15.07	15.51	16.84	10.28	10.72	11.29	11.73	13.06
	6H	14.60	14.96	15.64	16.02	17.34	10.78	11.14	11.81	12.19	13.52
	8H	14.81	15.12	15.85	16.16	17.51	10.96	11.27	12.00	12.31	13.66
	12H	14.93	15.21	15.98	16.24	17.63	11.06	11.34	12.11	12.38	13.77
12H	4H	14.01	14.40	15.04	15.43	16.77	10.29	10.68	11.31	11.71	13.04
	6H	14.58	14.89	15.62	15.93	17.28	10.82	11.14	11.87	12.18	13.53
	8H	14.78	15.06	15.83	16.10	17.49	11.02	11.30	12.06	12.33	13.72