

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: P913775

Luminaire Tested: DFN2DIP-PN2F0-020D050US927-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913775
REPORT IS A COMBINATION OF REPORTS P901012 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-020D050US927-RLLONL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

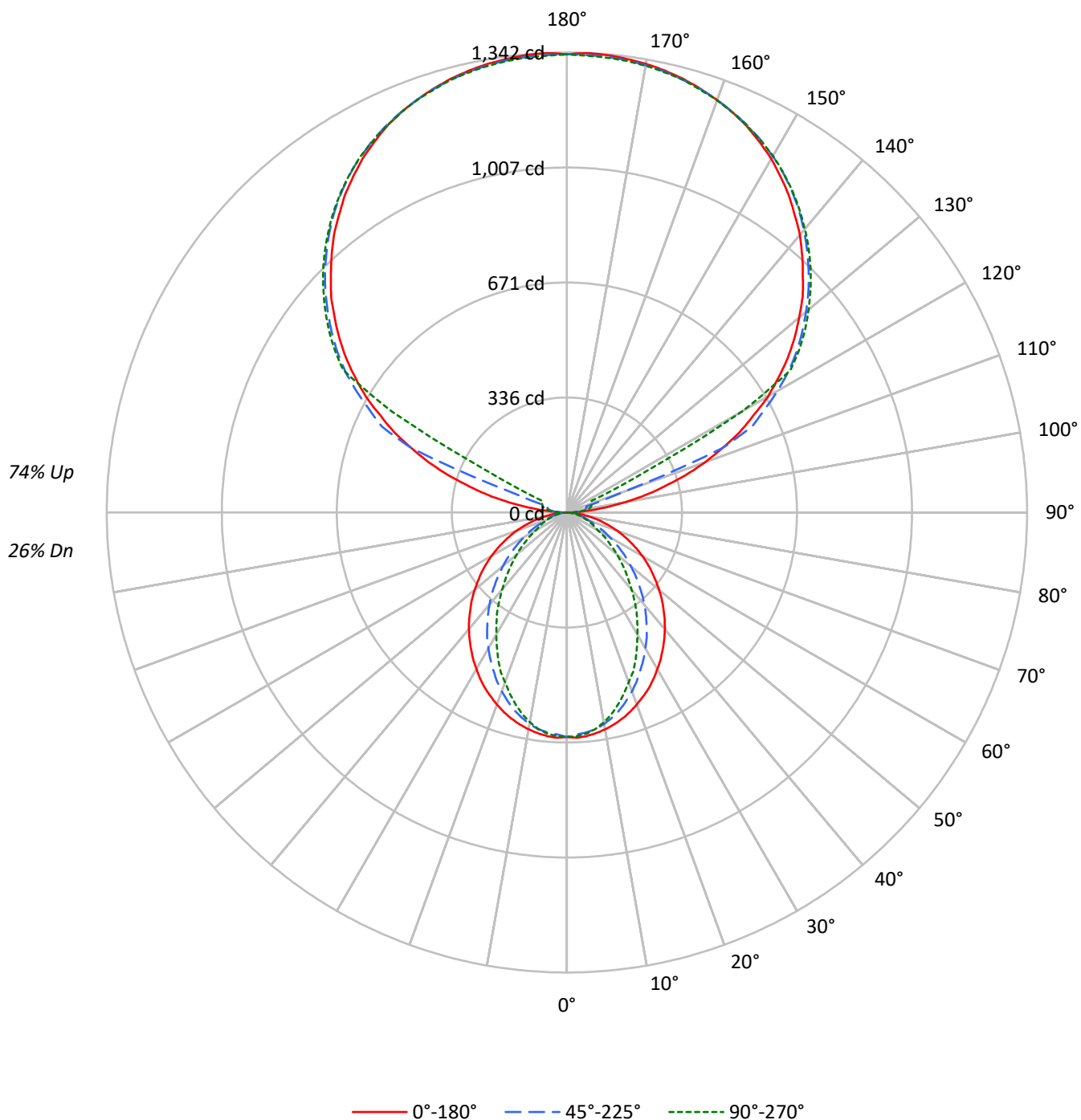
Lumens per Lamp: N/A
Luminaire Lumens: 5268.0 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 57.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P913775

CATALOG NUMBER: DFN2DIP-PN2F0-020D050US927-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	101	101	101	101		90	90	90	90		70	70	70		51	51	51		34	34	34
1	93	88	85	82		82	79	76	73		61	59	58		45	44	43		30	29	29
2	84	77	72	67		75	69	65	60		54	51	48		40	38	36		27	26	25
3	77	68	61	56		69	61	55	51		48	44	41		35	33	31		24	23	21
4	71	60	53	47		63	54	48	43		43	38	35		32	29	26		22	20	19
5	65	54	46	41		58	48	42	37		38	33	30		28	25	23		19	18	16
6	60	48	41	35		53	43	37	32		34	30	26		26	23	20		18	16	14
7	55	43	36	31		49	39	33	28		31	26	23		23	20	18		16	14	13
8	51	39	32	27		45	36	29	25		28	24	20		21	18	16		15	13	12
9	47	36	29	24		42	32	26	22		26	21	18		20	16	14		14	12	10
10	44	33	26	21		39	30	24	20		24	19	16		18	15	13		13	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1418	1418	1418
5°	1418	1393	1403
10°	1402	1362	1355
15°	1380	1314	1282
20°	1352	1250	1194
25°	1324	1177	1109
30°	1286	1104	1002
35°	1250	1025	908
40°	1212	943	800
45°	1169	854	703
50°	1124	763	608
55°	1076	667	517
60°	1022	567	423
65°	958	465	379
70°	881	370	340
75°	784	321	305
80°	646	260	258
85°	421	161	182

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1229 cd/sqm

TEST NUMBER: P913775

CATALOG NUMBER: DFN2DIP-PN2F0-020D050US927-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.4	1.2
10°-20°	168.5	3.2
20°-30°	236.5	4.5
30°-40°	257.8	4.9
40°-50°	237.0	4.5
50°-60°	186.1	3.5
60°-70°	121.2	2.3
70°-80°	62.3	1.2
80°-90°	18.3	0.3
90°-100°	44.1	0.8
100°-110°	164.3	3.1
110°-120°	435.8	8.3
120°-130°	722.8	13.7
130°-140°	767.8	14.6
140°-150°	713.6	13.5
150°-160°	573.7	10.9
160°-170°	369.7	7.0
170°-180°	127.2	2.4
0°-30°	466.4	8.9
0°-40°	724.2	13.7
0°-60°	1147.3	21.8
0°-90°	1349.1	25.6
90°-120°	644.2	12.2
90°-150°	2848.4	54.1
90°-180°	3919.0	74.4
0°-180°	5268.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	655	655	655	655	655	
5°	655	652	644	650	648	62
15°	623	616	596	585	579	176
25°	565	546	507	483	474	260
35°	487	457	405	367	354	305
45°	398	358	296	254	240	308
55°	303	257	193	157	146	271
65°	204	156	103	83	81	203
75°	109	68	47	43	43	115
85°	25	13	11	11	11	29
90°	1	12	19	24	26	5
95°	63	31	38	43	42	74
105°	294	323	59	70	74	314
115°	556	573	597	149	79	548
125°	786	799	817	824	827	701
135°	973	989	997	1007	1005	752
145°	1129	1128	1144	1151	1146	706
155°	1243	1234	1246	1252	1244	573
165°	1310	1304	1307	1314	1307	370
175°	1340	1333	1335	1342	1332	127
180°	1337	1337	1337	1337	1337	

TEST NUMBER: P913775

CATALOG NUMBER: DFN2DIP-PN2F0-020D050US927-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	654.8	654.8	654.8	654.8	654.8
2.5°	657.7	654.8	648.2	654.3	653.1
5°	654.8	651.9	644.1	649.5	647.7
7.5°	649.5	645.9	637.6	640.0	637.0
10°	642.4	638.2	626.4	624.6	621.1
12.5°	633.5	628.1	612.1	608.6	602.1
15°	622.8	616.2	596.1	584.9	579.0
17.5°	610.4	600.9	576.0	562.9	553.5
20°	596.1	584.2	554.7	539.9	526.8
22.5°	580.7	567.1	532.7	512.6	503.7
25°	565.4	546.4	507.2	483.0	474.0
27.5°	547.0	526.8	483.5	455.7	442.0
30°	527.4	504.9	457.5	427.3	411.2
32.5°	508.4	481.2	432.6	397.0	382.2
35°	487.1	456.9	404.8	367.4	354.3
37.5°	466.4	433.7	378.7	337.8	323.0
40°	444.4	408.9	351.4	309.3	293.9
42.5°	421.9	384.0	324.2	280.3	265.5
45°	398.2	358.5	296.4	254.2	240.0
47.5°	375.7	333.7	269.7	227.5	214.5
50°	350.9	308.8	243.6	202.6	190.3
52.5°	326.5	282.0	218.6	179.6	168.3
55°	302.8	256.6	192.6	157.1	145.8
57.5°	278.5	231.1	169.5	136.3	126.8
60°	253.7	206.2	145.2	115.0	105.5
62.5°	229.3	182.0	124.5	96.0	91.3
65°	204.5	156.5	103.1	83.0	81.2
67.5°	180.8	132.7	83.0	72.9	71.1
70°	155.8	109.6	68.7	62.8	60.4
72.5°	132.1	88.2	57.4	52.8	51.6
75°	109.0	67.5	47.4	43.3	42.7
77.5°	86.0	48.0	37.3	34.9	33.7
80°	64.6	34.4	28.4	26.1	26.1
82.5°	45.0	23.1	19.6	18.4	18.4
85°	25.4	13.0	11.2	11.2	11.2
87.5°	9.5	4.8	4.8	4.1	4.1
90°	1.0	11.6	19.3	24.2	26.1
92.5°	24.2	20.4	23.2	25.2	26.1
95°	62.8	30.9	37.7	42.6	41.6
97.5°	113.1	33.9	49.3	52.3	53.2
100°	171.3	38.7	55.1	62.8	64.8
102.5°	235.0	233.1	57.1	67.7	70.7
105°	294.1	323.1	59.0	69.6	73.5
107.5°	362.7	386.8	61.0	71.5	75.5
110°	428.6	448.8	169.3	72.6	76.4

TEST NUMBER: P913775

CATALOG NUMBER: DFN2DIP-PN2F0-020D050US927-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	490.4	507.8	491.4	74.5	77.4
115°	556.2	572.6	596.8	149.0	79.4
117.5°	613.2	632.6	649.1	510.6	257.3
120°	677.1	691.6	709.0	720.6	590.0
122.5°	731.2	746.7	766.1	771.9	772.9
125°	786.3	799.0	817.4	824.1	827.0
127.5°	836.6	850.2	864.8	874.4	875.4
130°	884.1	899.6	910.1	920.8	920.0
132.5°	932.5	945.1	955.6	964.4	963.5
135°	973.1	988.6	997.2	1007.0	1005.0
137.5°	1015.6	1027.2	1037.0	1046.6	1043.8
140°	1057.2	1065.0	1075.5	1084.3	1079.5
142.5°	1092.1	1098.9	1111.4	1119.1	1114.3
145°	1128.9	1127.8	1144.2	1151.0	1146.2
147.5°	1160.7	1157.8	1174.3	1179.1	1175.3
150°	1191.7	1184.9	1200.4	1206.2	1201.3
152.5°	1217.7	1210.1	1224.6	1230.4	1223.6
155°	1242.9	1234.3	1245.9	1251.6	1244.0
157.5°	1263.2	1255.5	1264.2	1271.1	1263.2
160°	1280.7	1274.9	1280.7	1286.4	1279.7
162.5°	1296.1	1290.4	1295.1	1301.9	1293.2
165°	1309.6	1303.9	1306.8	1313.5	1306.8
167.5°	1320.3	1314.5	1317.5	1324.2	1315.5
170°	1329.0	1323.2	1325.2	1331.9	1323.2
172.5°	1334.8	1329.0	1331.0	1337.8	1329.0
175°	1339.7	1332.8	1334.8	1341.6	1331.9
177.5°	1341.6	1334.8	1335.9	1342.6	1333.9
180°	1336.7	1336.7	1336.7	1336.7	1336.7

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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	5.37	6.03	6.52	7.16	8.75	1.34	2.00	2.48	3.13	4.72
	3H	7.01	7.61	8.17	8.75	10.35	2.50	3.09	3.65	4.23	5.83
	4H	7.60	8.16	8.76	9.30	10.91	2.93	3.49	4.09	4.63	6.23
	6H	8.00	8.52	9.17	9.66	11.27	3.22	3.74	4.39	4.88	6.50
	8H	8.11	8.60	9.28	9.76	11.37	3.30	3.79	4.47	4.95	6.56
	12H	8.16	8.62	9.33	9.78	11.40	3.33	3.80	4.51	4.95	6.58
4H	2H	5.36	5.93	6.53	7.07	8.67	1.90	2.46	3.07	3.60	5.21
	3H	7.15	7.62	8.33	8.79	10.40	3.22	3.68	4.39	4.85	6.47
	4H	7.82	8.25	9.00	9.41	11.04	3.74	4.18	4.92	5.33	6.96
	6H	8.31	8.68	9.49	9.86	11.48	4.13	4.50	5.32	5.68	7.30
	8H	8.47	8.81	9.65	9.98	11.62	4.25	4.60	5.43	5.76	7.40
	12H	8.54	8.86	9.74	10.04	11.68	4.30	4.61	5.49	5.79	7.44
8H	4H	7.77	8.12	8.95	9.29	10.93	4.00	4.34	5.18	5.51	7.15
	6H	8.31	8.60	9.51	9.81	11.44	4.49	4.77	5.69	5.98	7.62
	8H	8.51	8.76	9.72	9.95	11.61	4.66	4.91	5.87	6.10	7.76
	12H	8.63	8.85	9.84	10.03	11.72	4.76	4.98	5.97	6.17	7.85
12H	4H	7.72	8.03	8.91	9.21	10.85	3.99	4.30	5.19	5.48	7.13
	6H	8.28	8.53	9.49	9.72	11.38	4.53	4.78	5.73	5.97	7.62
	8H	8.48	8.70	9.69	9.89	11.58	4.72	4.94	5.93	6.12	7.81

END OF REPORT