

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: P913135

Luminaire Tested: DFN2DIP-4P3F0-040D040US927-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913135
REPORT IS A COMBINATION OF REPORTS P900573 AND P897473
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-4P3F0-040D040US927-FLLONL
Description: 3 foot, 90deg - 4way Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

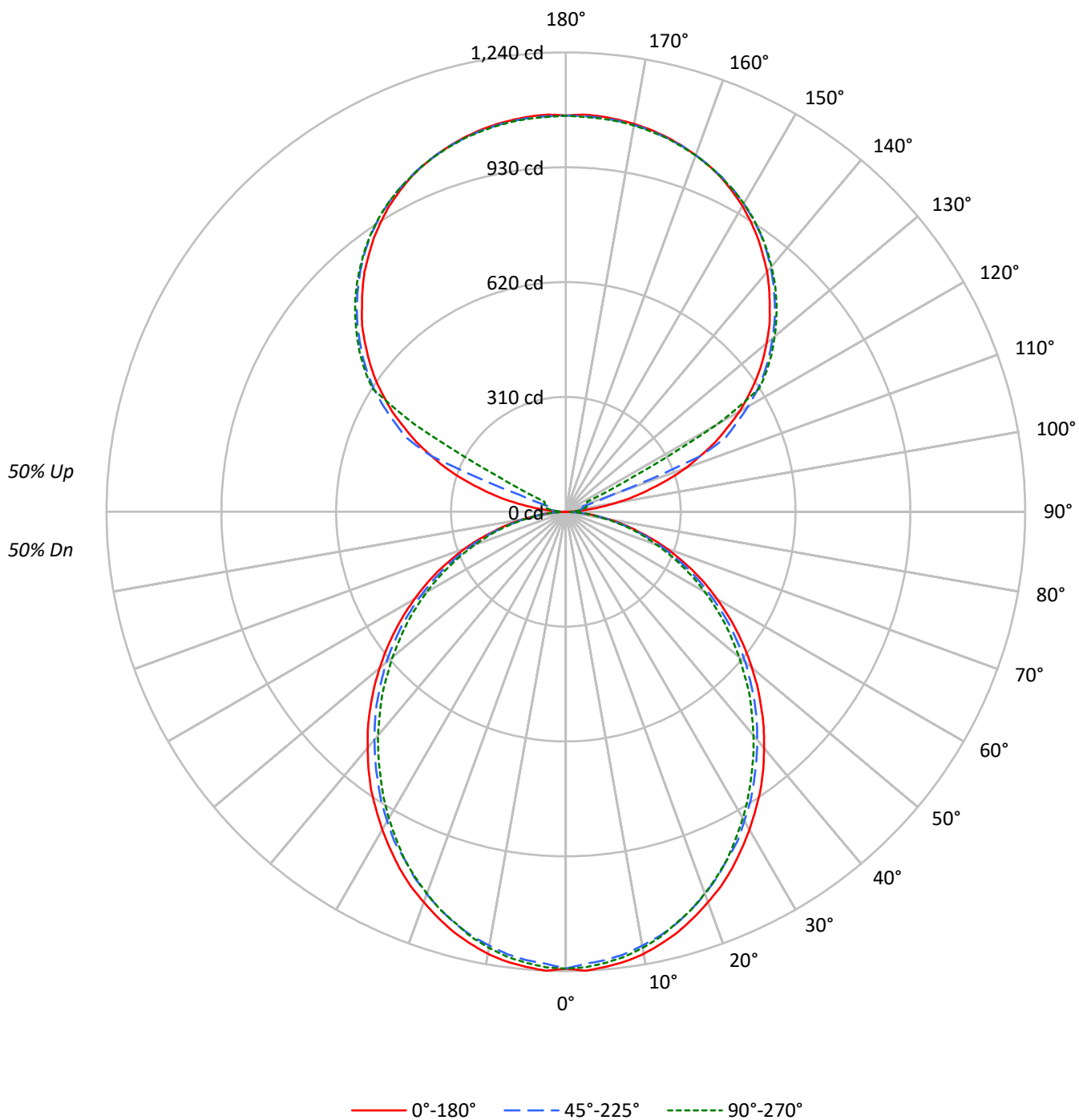
Lumens per Lamp: N/A
Luminaire Lumens: 6274.0 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.07' x L: 3.07' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 67.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P913135

CATALOG NUMBER: DFN2DIP-4P3F0-040D040US927-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P913135

CATALOG NUMBER: DFN2DIP-4P3F0-040D040US927-FLLONL

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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56
1	98	93	90	86	90	86	83	80	73	71	68	61	59	58	50	48	47
2	89	82	75	70	82	76	70	66	64	60	57	53	51	48	44	42	40
3	81	72	64	59	75	66	60	55	56	52	48	47	44	41	39	36	34
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	29
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	31	28	26
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	23
7	58	46	38	32	53	43	36	30	37	31	27	31	27	23	26	23	20
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	24	20	18
9	50	38	30	25	46	35	29	24	31	25	21	26	22	19	22	19	16
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1405	1405	1405
5°	1406	1385	1394
10°	1394	1365	1375
15°	1373	1342	1345
20°	1344	1310	1315
25°	1316	1271	1279
30°	1280	1236	1234
35°	1247	1194	1187
40°	1205	1151	1142
45°	1164	1109	1096
50°	1119	1064	1042
55°	1072	1012	993
60°	1018	951	936
65°	959	887	870
70°	885	810	798
75°	782	717	731
80°	657	598	604
85°	463	397	396

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1164 cd/sqm

TEST NUMBER: P913135

CATALOG NUMBER: DFN2DIP-4P3F0-040D040US927-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.0	1.8
10°-20°	326.5	5.2
20°-30°	479.8	7.6
30°-40°	557.3	8.9
40°-50°	556.6	8.9
50°-60°	485.3	7.7
60°-70°	358.8	5.7
70°-80°	203.0	3.2
80°-90°	55.5	0.9
90°-100°	35.2	0.6
100°-110°	131.5	2.1
110°-120°	348.6	5.6
120°-130°	578.2	9.2
130°-140°	614.2	9.8
140°-150°	570.9	9.1
150°-160°	458.9	7.3
160°-170°	295.7	4.7
170°-180°	101.8	1.6
0°-30°	922.4	14.7
0°-40°	1479.7	23.6
0°-60°	2521.7	40.2
0°-90°	3138.9	50.0
90°-120°	515.3	8.2
90°-150°	2278.7	36.3
90°-180°	3135.0	50.0
0°-180°	6274.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1233	1233	1233	1233	1233	
5°	1233	1228	1215	1225	1222	117
15°	1174	1167	1151	1156	1150	331
25°	1062	1053	1033	1035	1033	489
35°	916	905	886	878	873	572
45°	746	738	720	707	702	576
55°	564	557	543	529	523	505
65°	381	373	362	351	345	376
75°	199	197	191	184	186	213
85°	49	48	46	43	42	54
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: P913135

CATALOG NUMBER: DFN2DIP-4P3F0-040D040US927-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1233.0	1233.0	1233.0	1233.0	1233.0
2.5°	1240.2	1234.2	1221.1	1233.0	1230.7
5°	1233.0	1228.3	1215.2	1224.6	1222.4
7.5°	1224.6	1217.6	1204.5	1214.1	1211.7
10°	1211.7	1203.4	1189.2	1198.6	1195.1
12.5°	1193.8	1186.8	1172.6	1178.5	1176.1
15°	1173.7	1166.6	1151.2	1156.0	1150.1
17.5°	1148.8	1141.8	1126.3	1132.2	1126.3
20°	1121.5	1114.4	1097.9	1101.4	1096.8
22.5°	1094.3	1083.6	1068.2	1068.2	1065.8
25°	1062.2	1052.8	1032.7	1035.0	1032.7
27.5°	1026.7	1018.3	1003.1	999.5	993.6
30°	991.2	981.7	963.9	960.4	955.6
32.5°	953.2	946.2	927.2	920.0	915.2
35°	916.5	904.7	885.7	878.5	872.6
37.5°	875.0	864.3	845.3	837.0	831.1
40°	832.3	822.8	803.7	793.2	788.5
42.5°	790.8	781.2	762.4	750.4	743.4
45°	745.8	737.5	719.6	706.7	701.9
47.5°	701.9	693.6	674.6	661.6	654.5
50°	655.6	649.7	633.1	616.5	610.5
52.5°	610.5	602.3	586.9	573.9	565.5
55°	564.4	557.2	543.0	528.8	522.9
57.5°	518.1	512.2	496.7	482.5	477.8
60°	471.8	467.1	450.6	437.5	434.0
62.5°	426.8	418.5	406.7	394.8	390.1
65°	380.6	373.4	361.6	350.9	345.1
67.5°	333.2	327.2	316.6	308.3	303.6
70°	289.3	284.6	273.9	265.5	260.9
72.5°	244.3	239.5	233.6	225.3	221.7
75°	199.2	196.9	190.8	183.8	186.2
77.5°	158.8	154.1	151.7	148.1	144.7
80°	118.6	117.3	114.9	111.5	109.1
82.5°	80.6	80.6	79.5	74.7	74.7
85°	48.6	47.5	46.3	42.6	41.5
87.5°	21.4	19.0	16.6	13.1	11.8
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: P913135

CATALOG NUMBER: DFN2DIP-4P3F0-040D040US927-FLLONL

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

TEST NUMBER: P913135

CATALOG NUMBER: DFN2DIP-4P3F0-040D040US927-FLLONL

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	8.42	9.28	9.38	10.26	11.53	7.98	8.84	8.94	9.81	11.08
	3H	10.08	10.85	11.05	11.83	13.13	9.59	10.36	10.56	11.34	12.64
	4H	10.66	11.40	11.65	12.38	13.68	10.17	10.90	11.15	11.89	13.19
	6H	11.06	11.73	12.05	12.72	14.04	10.56	11.23	11.55	12.22	13.54
	8H	11.16	11.80	12.16	12.81	14.12	10.66	11.30	11.66	12.31	13.62
	12H	11.21	11.82	12.21	12.82	14.16	10.70	11.31	11.71	12.31	13.65
4H	2H	8.88	9.61	9.87	10.60	11.90	8.53	9.26	9.51	10.24	11.54
	3H	10.74	11.35	11.74	12.37	13.68	10.33	10.94	11.33	11.96	13.27
	4H	11.45	12.01	12.46	13.02	14.36	11.03	11.59	12.03	12.59	13.93
	6H	11.96	12.44	12.98	13.47	14.81	11.53	12.01	12.55	13.04	14.38
	8H	12.11	12.56	13.13	13.58	14.93	11.67	12.12	12.69	13.15	14.50
	12H	12.18	12.59	13.22	13.63	14.98	11.73	12.14	12.77	13.18	14.53
8H	4H	11.64	12.09	12.66	13.12	14.47	11.27	11.72	12.28	12.74	14.09
	6H	12.27	12.64	13.31	13.71	15.05	11.89	12.26	12.93	13.32	14.67
	8H	12.49	12.81	13.54	13.86	15.23	12.09	12.42	13.14	13.47	14.84
	12H	12.62	12.90	13.67	13.95	15.36	12.20	12.49	13.26	13.54	14.95
12H	4H	11.63	12.03	12.67	13.07	14.43	11.26	11.67	12.30	12.71	14.06
	6H	12.30	12.62	13.35	13.68	15.04	11.93	12.25	12.98	13.30	14.67
	8H	12.54	12.82	13.59	13.87	15.28	12.16	12.44	13.21	13.49	14.90