

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: P913292

Luminaire Tested: DFN2DIP-4P4F0-070D050US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913292
REPORT IS A COMBINATION OF REPORTS P899112 AND P895967
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-4P4F0-070D050US927-RLLFLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

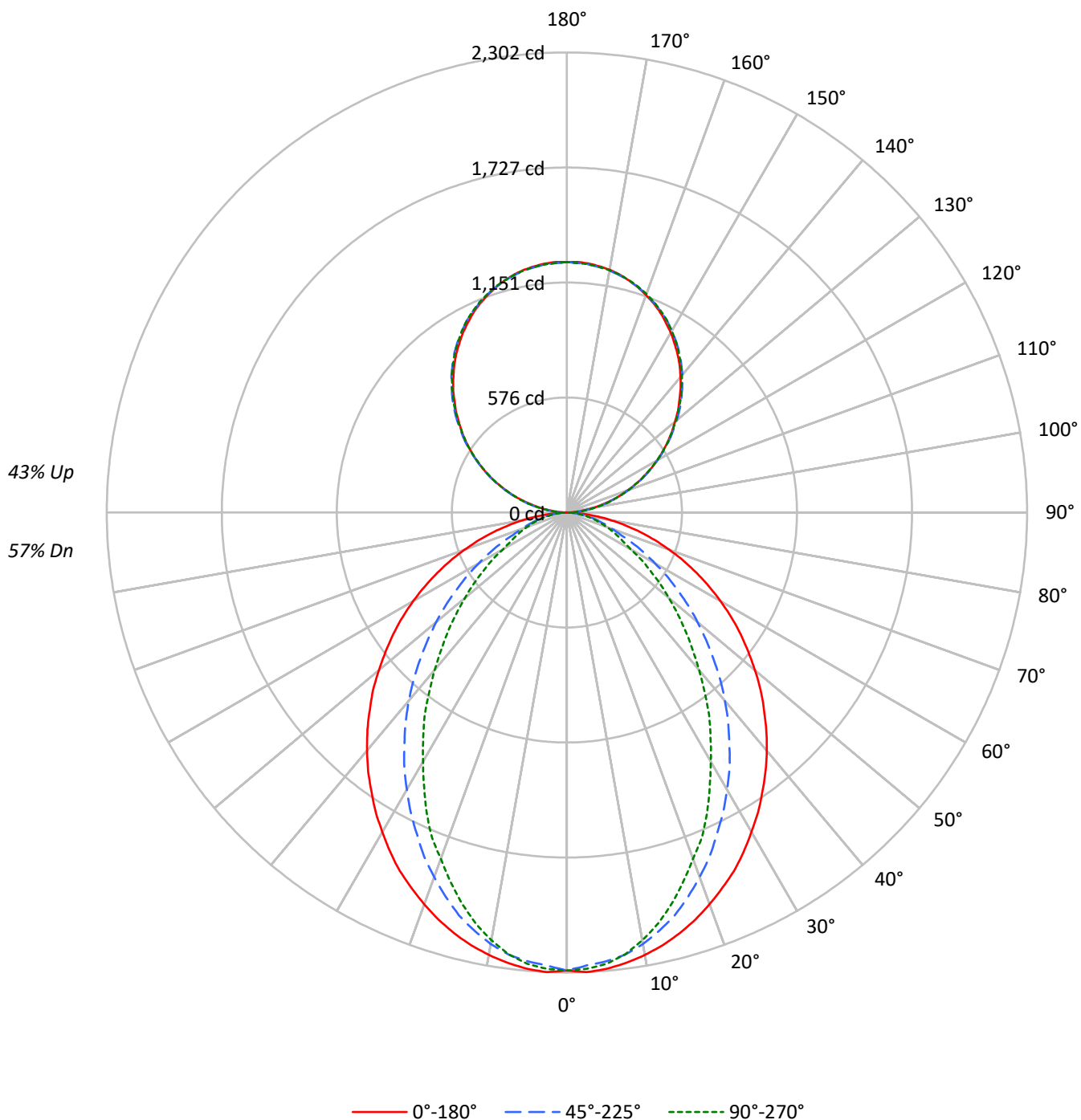
Lumens per Lamp: N/A
Luminaire Lumens: 8218.9 lumens
Efficiency: N/A
Efficacy: 71.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 4.07' x L: 4.07' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 114.5
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: P913292

CATALOG NUMBER: DFN2DIP-4P4F0-070D050US927-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P913292

CATALOG NUMBER: DFN2DIP-4P4F0-070D050US927-RLLFLL

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	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63
1	100	96	92	89	93	89	86	83	78	75	73	67	65	63	56	55	54
2	92	84	78	73	85	79	74	69	69	65	61	59	56	54	50	48	47
3	84	75	68	62	78	70	64	59	61	56	52	53	49	46	45	42	40
4	77	66	59	53	72	62	56	50	55	49	45	47	43	40	41	38	35
5	71	60	52	46	66	56	49	44	49	44	39	43	39	35	37	34	31
6	66	54	46	40	61	51	43	38	45	39	35	39	34	31	34	30	28
7	61	49	41	35	57	46	39	34	41	35	31	36	31	28	31	27	25
8	57	44	37	32	53	42	35	30	37	32	28	33	28	25	29	25	22
9	53	41	33	28	49	38	32	27	34	29	25	30	26	23	26	23	20
10	49	37	30	26	46	35	29	25	32	26	23	28	24	21	25	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1487	1487	1487
5°	1489	1464	1473
10°	1475	1435	1426
15°	1454	1388	1352
20°	1428	1323	1262
25°	1400	1251	1174
30°	1364	1176	1063
35°	1327	1095	966
40°	1291	1012	854
45°	1248	920	752
50°	1204	826	653
55°	1158	726	558
60°	1105	622	459
65°	1044	516	414
70°	969	416	376
75°	876	368	343
80°	741	311	299
85°	518	210	229

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1248 cd/sqm

TEST NUMBER: P913292

CATALOG NUMBER: DFN2DIP-4P4F0-070D050US927-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.8	2.6
10°-20°	589.7	7.2
20°-30°	827.9	10.1
30°-40°	902.4	11.0
40°-50°	829.4	10.1
50°-60°	651.4	7.9
60°-70°	424.0	5.2
70°-80°	218.2	2.7
80°-90°	59.3	0.7
90°-100°	77.5	0.9
100°-110°	246.3	3.0
110°-120°	421.5	5.1
120°-130°	554.3	6.7
130°-140°	622.2	7.6
140°-150°	610.1	7.4
150°-160°	511.8	6.2
160°-170°	339.4	4.1
170°-180°	118.6	1.4
0°-30°	1632.3	19.9
0°-40°	2534.7	30.8
0°-60°	4015.5	48.9
0°-90°	4717.0	57.4
90°-120°	745.3	9.1
90°-150°	2532.0	30.8
90°-180°	3502.0	42.6
0°-180°	8218.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2292	2292	2292	2292	2292	
5°	2292	2282	2254	2273	2267	217
15°	2180	2157	2086	2047	2026	614
25°	1979	1912	1775	1690	1659	910
35°	1705	1599	1417	1286	1240	1067
45°	1394	1255	1037	890	840	1076
55°	1060	898	674	550	510	947
65°	716	548	361	290	284	709
75°	382	236	166	151	149	404
85°	89	46	39	39	39	102
90°	1	14	37	35	36	8
95°	55	66	68	68	66	61
105°	227	230	233	234	234	240
115°	423	429	427	426	423	418
125°	615	625	622	618	617	550
135°	796	807	810	809	806	615
145°	966	974	980	981	977	604
155°	1105	1108	1111	1116	1113	508
165°	1202	1201	1201	1208	1203	339
175°	1250	1247	1245	1253	1246	119
180°	1253	1253	1253	1253	1253	

TEST NUMBER: P913292

CATALOG NUMBER: DFN2DIP-4P4F0-070D050US927-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2291.9	2291.9	2291.9	2291.9	2291.9
2.5°	2302.2	2291.9	2269.0	2289.9	2285.7
5°	2291.9	2281.5	2254.5	2273.2	2267.0
7.5°	2273.2	2260.8	2231.8	2239.9	2229.6
10°	2248.3	2233.8	2192.4	2186.0	2173.7
12.5°	2217.2	2198.5	2142.5	2130.1	2107.2
15°	2179.8	2157.0	2086.5	2047.2	2026.5
17.5°	2136.3	2103.1	2015.9	1970.3	1937.1
20°	2086.5	2044.9	1941.3	1889.6	1843.8
22.5°	2032.7	1984.9	1864.5	1794.1	1763.1
25°	1978.7	1912.2	1775.4	1690.4	1659.2
27.5°	1914.5	1843.8	1692.4	1595.0	1547.2
30°	1846.0	1767.0	1601.1	1495.5	1439.4
32.5°	1779.6	1684.1	1514.2	1389.6	1337.7
35°	1704.9	1599.1	1416.7	1286.0	1240.2
37.5°	1632.4	1518.1	1325.4	1182.1	1130.4
40°	1555.5	1431.2	1229.9	1082.7	1028.7
42.5°	1476.8	1344.1	1134.6	981.0	929.3
45°	1393.8	1254.7	1037.1	889.7	839.9
47.5°	1315.0	1167.8	943.8	796.4	750.8
50°	1227.9	1080.7	852.5	709.2	665.9
52.5°	1142.7	987.1	765.3	628.4	589.1
55°	1059.8	898.0	674.0	549.7	510.3
57.5°	974.9	808.9	593.3	477.1	443.9
60°	887.7	721.8	508.1	402.5	369.2
62.5°	802.7	636.8	435.5	336.0	319.5
65°	715.6	547.5	360.9	290.5	284.1
67.5°	632.6	464.5	290.5	255.0	248.9
70°	545.5	383.7	240.5	219.8	211.4
72.5°	462.6	309.0	201.1	184.7	180.5
75°	381.6	236.3	165.9	151.4	149.4
77.5°	300.8	167.9	130.7	122.3	118.2
80°	226.0	120.3	99.5	91.3	91.3
82.5°	157.6	81.0	68.4	64.2	64.2
85°	89.1	45.6	39.4	39.4	39.4
87.5°	33.2	16.5	16.5	14.5	14.5
90°	1.1	13.6	37.0	34.8	35.9
92.5°	23.4	31.7	32.9	34.0	34.0
95°	55.1	65.8	67.6	67.6	65.8
97.5°	91.7	101.6	105.8	105.8	105.8
100°	134.0	142.8	145.8	145.8	144.7
102.5°	178.6	185.1	189.2	190.4	189.2
105°	227.4	230.4	232.7	234.5	234.5
107.5°	275.7	280.2	280.2	281.0	275.7
110°	322.5	328.6	328.6	328.6	325.5

TEST NUMBER: P913292

CATALOG NUMBER: DFN2DIP-4P4F0-070D050US927-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	373.1	379.5	378.4	375.4	373.1
115°	422.9	429.0	427.1	426.0	422.9
117.5°	472.5	480.8	475.5	472.5	469.4
120°	522.3	530.6	522.3	522.3	518.9
122.5°	567.6	578.2	572.9	569.9	567.6
125°	615.2	624.6	621.6	618.2	617.1
127.5°	661.6	673.4	669.2	664.6	661.6
130°	705.1	718.7	716.8	714.5	710.3
132.5°	753.8	764.4	765.2	759.9	756.8
135°	795.7	807.4	809.7	808.6	805.6
137.5°	842.6	852.0	853.9	853.1	848.6
140°	883.7	893.2	898.4	898.4	894.3
142.5°	926.0	935.5	938.5	939.6	935.5
145°	966.1	973.6	979.6	980.8	976.6
147.5°	1002.0	1011.4	1015.9	1017.8	1013.6
150°	1038.9	1045.4	1049.5	1052.9	1049.5
152.5°	1071.8	1078.2	1083.5	1087.7	1083.5
155°	1104.6	1107.6	1111.0	1116.3	1112.9
157.5°	1133.0	1135.2	1137.1	1144.7	1139.4
160°	1158.2	1160.5	1161.7	1168.1	1163.6
162.5°	1181.7	1181.7	1182.8	1190.0	1184.7
165°	1201.7	1200.6	1200.6	1208.2	1202.8
167.5°	1219.8	1216.4	1216.4	1224.0	1218.7
170°	1233.4	1230.4	1229.3	1236.8	1230.4
172.5°	1242.9	1239.8	1238.7	1246.3	1239.8
175°	1250.5	1247.4	1245.2	1252.7	1246.3
177.5°	1254.6	1251.6	1249.3	1255.7	1249.3
180°	1252.7	1252.7	1252.7	1252.7	1252.7

TEST NUMBER: P913292

CATALOG NUMBER: DFN2DIP-4P4F0-070D050US927-RLLFLL

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	9.21	10.10	10.10	11.01	12.18	5.17	6.06	6.07	6.98	8.14
	3H	10.89	11.69	11.81	12.62	13.81	6.36	7.16	7.27	8.08	9.27
	4H	11.51	12.27	12.44	13.19	14.39	6.82	7.57	7.74	8.50	9.70
	6H	11.94	12.64	12.88	13.57	14.78	7.14	7.84	8.08	8.77	9.98
	8H	12.07	12.73	13.01	13.68	14.89	7.24	7.90	8.18	8.85	10.06
	12H	12.14	12.77	13.09	13.71	14.95	7.28	7.91	8.23	8.86	10.09
4H	2H	9.23	9.99	10.16	10.92	12.12	5.77	6.53	6.71	7.46	8.66
	3H	11.07	11.70	12.01	12.66	13.87	7.13	7.76	8.07	8.72	9.93
	4H	11.77	12.35	12.72	13.30	14.54	7.68	8.26	8.63	9.21	10.45
	6H	12.30	12.79	13.26	13.77	15.00	8.11	8.60	9.07	9.58	10.82
	8H	12.48	12.94	13.44	13.91	15.16	8.24	8.70	9.21	9.67	10.92
	12H	12.58	12.99	13.56	13.98	15.24	8.31	8.72	9.29	9.71	10.97
8H	4H	11.75	12.21	12.71	13.18	14.43	7.97	8.43	8.94	9.40	10.65
	6H	12.32	12.70	13.31	13.71	14.96	8.50	8.88	9.49	9.89	11.14
	8H	12.54	12.88	13.54	13.88	15.15	8.69	9.02	9.69	10.02	11.29
	12H	12.69	12.98	13.69	13.98	15.29	8.81	9.11	9.81	10.10	11.42
12H	4H	11.70	12.12	12.69	13.10	14.36	7.98	8.39	8.96	9.38	10.64
	6H	12.30	12.63	13.30	13.63	14.90	8.55	8.88	9.55	9.88	11.15
	8H	12.52	12.82	13.53	13.81	15.13	8.76	9.06	9.76	10.05	11.37

END OF REPORT