

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: P913889

Luminaire Tested: DFN2DIP-PN3F0-040D030US927-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913889
REPORT IS A COMBINATION OF REPORTS P901033 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-040D030US927-FLLONL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

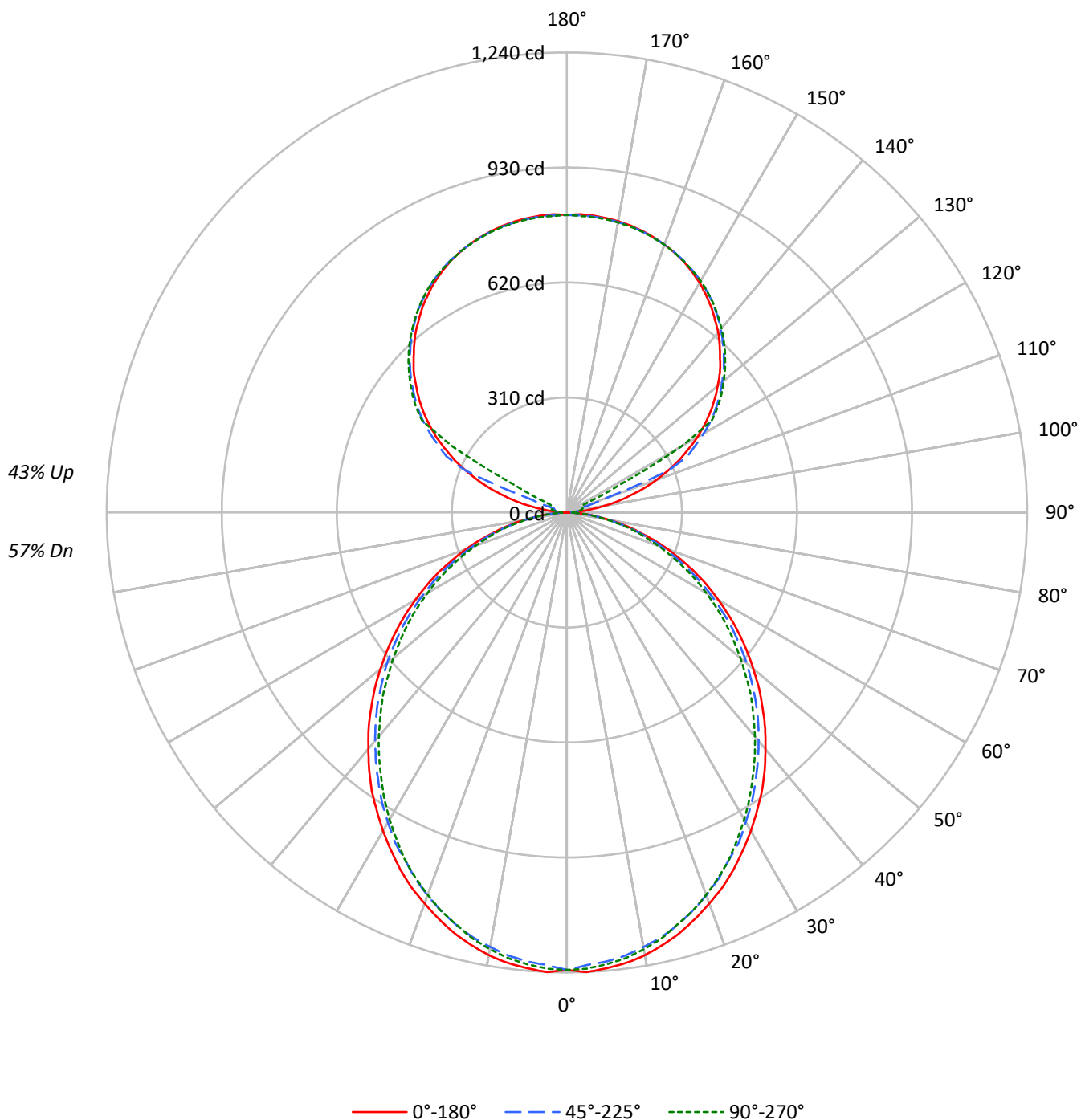
Lumens per Lamp: N/A
Luminaire Lumens: 5489.8 lumens
Efficiency: N/A
Efficacy: 94.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 58
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P913889

CATALOG NUMBER: DFN2DIP-PN3F0-040D030US927-FLLONL

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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	63	63	63
1	99	95	91	88	92	89	85	82	77	74	72	66	64	62	55	54	53
2	91	83	77	72	84	77	72	67	67	63	59	58	55	52	49	47	45
3	83	73	66	60	77	68	62	56	59	54	50	51	47	44	43	40	38
4	76	65	57	50	70	61	53	48	53	47	43	45	41	38	39	35	33
5	69	58	49	43	64	54	47	41	47	41	37	41	36	33	35	31	29
6	64	52	44	38	59	49	41	36	43	37	32	37	32	29	32	28	25
7	59	47	39	33	55	44	37	31	39	33	28	34	29	25	29	25	22
8	55	43	35	29	51	40	33	28	35	29	25	31	26	23	27	23	20
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	25	21	18
10	48	36	28	24	45	34	27	22	30	24	20	26	22	18	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1441	1441	1441
5°	1443	1420	1430
10°	1430	1400	1410
15°	1408	1376	1379
20°	1379	1343	1348
25°	1350	1304	1311
30°	1314	1267	1265
35°	1279	1224	1216
40°	1237	1180	1170
45°	1195	1137	1122
50°	1148	1091	1067
55°	1100	1038	1017
60°	1045	975	959
65°	985	909	890
70°	909	830	816
75°	803	734	747
80°	675	612	616
85°	477	405	402

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1195 cd/sqm

TEST NUMBER: P913889

CATALOG NUMBER: DFN2DIP-PN3F0-040D030US927-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.0	2.1
10°-20°	326.5	5.9
20°-30°	479.8	8.7
30°-40°	557.3	10.2
40°-50°	556.6	10.1
50°-60°	485.3	8.8
60°-70°	358.8	6.5
70°-80°	203.0	3.7
80°-90°	55.0	1.0
90°-100°	26.5	0.5
100°-110°	98.6	1.8
110°-120°	261.5	4.8
120°-130°	433.7	7.9
130°-140°	460.7	8.4
140°-150°	428.1	7.8
150°-160°	344.2	6.3
160°-170°	221.8	4.0
170°-180°	76.3	1.4
0°-30°	922.4	16.8
0°-40°	1479.7	27.0
0°-60°	2521.7	45.9
0°-90°	3138.4	57.2
90°-120°	386.5	7.0
90°-150°	1709.0	31.1
90°-180°	2351.0	42.8
0°-180°	5489.8	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	7	12	15	16	5
95°	38	18	23	26	25	45
105°	176	194	35	42	44	188
115°	334	344	358	89	48	329
125°	472	479	490	494	496	421
135°	584	593	598	604	603	451
145°	677	677	687	691	688	424
155°	746	741	748	751	746	344
165°	786	782	784	788	784	222
175°	804	800	801	805	799	76
180°	802	802	802	802	802	

TEST NUMBER: P913889

CATALOG NUMBER: DFN2DIP-PN3F0-040D030US927-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°	0.6	7.0	11.6	14.6	15.6
92.5°	14.6	12.2	13.9	15.1	15.6
95°	37.7	18.5	22.6	25.6	25.0
97.5°	67.9	20.4	29.5	31.4	31.9
100°	102.7	23.2	33.1	37.7	38.9
102.5°	141.0	139.9	34.2	40.6	42.4
105°	176.4	193.8	35.4	41.7	44.1
107.5°	217.6	232.1	36.6	42.9	45.3
110°	257.1	269.3	101.6	43.6	45.9



TEST NUMBER: P913889

CATALOG NUMBER: DFN2DIP-PN3F0-040D030US927-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	294.3	304.7	294.8	44.7	46.4
115°	333.7	343.6	358.1	89.4	47.6
117.5°	368.0	379.5	389.4	306.4	154.4
120°	406.2	414.9	425.4	432.4	354.0
122.5°	438.7	448.1	459.7	463.1	463.7
125°	471.8	479.3	490.4	494.5	496.2
127.5°	502.0	510.1	518.9	524.7	525.2
130°	530.4	539.8	546.1	552.5	552.0
132.5°	559.4	567.0	573.4	578.6	578.1
135°	583.8	593.2	598.3	604.2	603.0
137.5°	609.3	616.3	622.2	628.0	626.2
140°	634.3	639.0	645.3	650.5	647.7
142.5°	655.3	659.3	666.9	671.5	668.6
145°	677.3	676.7	686.6	690.6	687.7
147.5°	696.4	694.7	704.6	707.4	705.1
150°	715.0	711.0	720.3	723.7	720.8
152.5°	730.6	726.0	734.7	738.2	734.2
155°	745.8	740.6	747.5	751.0	746.4
157.5°	758.0	753.4	758.6	762.6	758.0
160°	768.4	764.9	768.4	771.9	767.8
162.5°	777.7	774.2	777.1	781.2	775.9
165°	785.8	782.4	784.1	788.1	784.1
167.5°	792.2	788.7	790.4	794.6	789.3
170°	797.4	793.9	795.1	799.2	793.9
172.5°	800.9	797.4	798.6	802.6	797.4
175°	803.7	799.7	800.9	804.9	799.2
177.5°	804.9	800.9	801.5	805.6	800.3
180°	802.1	802.1	802.1	802.1	802.1

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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	9.14	10.07	10.03	10.98	12.15	8.70	9.63	9.59	10.54	11.71
	3H	10.80	11.63	11.70	12.56	13.75	10.32	11.15	11.22	12.07	13.26
	4H	11.39	12.18	12.31	13.10	14.30	10.90	11.69	11.82	12.62	13.82
	6H	11.79	12.51	12.72	13.45	14.66	11.30	12.02	12.23	12.96	14.17
	8H	11.89	12.58	12.83	13.53	14.74	11.40	12.09	12.34	13.04	14.25
	12H	11.94	12.60	12.88	13.54	14.78	11.44	12.10	12.39	13.05	14.28
4H	2H	9.61	10.39	10.53	11.32	12.52	9.25	10.04	10.18	10.97	12.17
	3H	11.47	12.13	12.41	13.09	14.30	11.07	11.73	12.01	12.69	13.90
	4H	12.18	12.78	13.13	13.74	14.98	11.77	12.37	12.71	13.32	14.56
	6H	12.70	13.22	13.66	14.19	15.43	12.27	12.79	13.23	13.77	15.01
	8H	12.84	13.33	13.81	14.30	15.55	12.42	12.90	13.38	13.87	15.13
	12H	12.92	13.36	13.90	14.34	15.60	12.48	12.92	13.46	13.91	15.16
8H	4H	12.38	12.87	13.34	13.84	15.09	12.01	12.50	12.97	13.47	14.72
	6H	13.01	13.41	14.00	14.42	15.67	12.63	13.03	13.62	14.05	15.30
	8H	13.22	13.58	14.22	14.58	15.85	12.84	13.20	13.84	14.20	15.47
	12H	13.36	13.67	14.36	14.66	15.98	12.96	13.27	13.96	14.26	15.58
12H	4H	12.37	12.81	13.35	13.79	15.05	12.01	12.44	12.99	13.43	14.69
	6H	13.04	13.39	14.03	14.39	15.66	12.67	13.03	13.67	14.03	15.30
	8H	13.28	13.59	14.28	14.58	15.90	12.91	13.22	13.91	14.21	15.53

END OF REPORT