

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: P922052

Luminaire Tested: DFN2DIP-PN3F0-030D050US940-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P922052
REPORT IS A COMBINATION OF REPORTS P899539 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-030D050US940-FLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

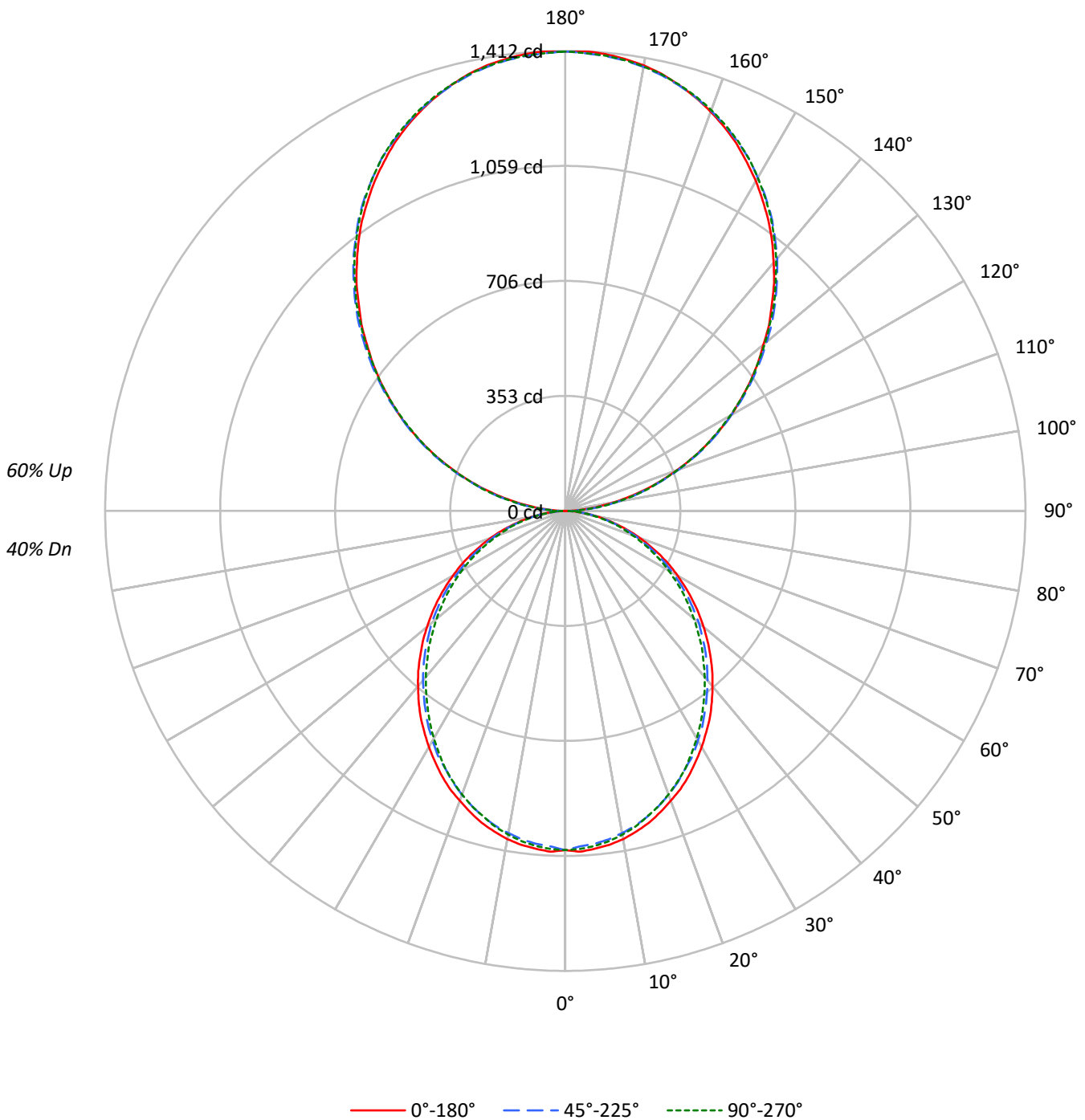
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6594.2 lumens
Efficiency: N/A
Efficacy: 107.0 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): 61.6
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: P922052
CATALOG NUMBER: DFN2DIP-PN3F0-030D050US940-FLLFLL

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									0								
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																								
RCR																																																						
0	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40																																				
1	96	91	87	84	87	83	80	77	68	66	64	54	53	51	42	41	40	34																																				
2	87	80	74	69	79	73	68	63	60	56	53	48	45	43	37	35	33	28																																				
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	32	30	28	24																																				
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	29	27	25	21																																				
5	67	55	47	41	60	51	44	38	42	37	33	34	30	27	26	23	21	18																																				
6	61	49	41	36	56	45	38	33	38	32	28	30	27	24	24	21	19	16																																				
7	57	45	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17	14																																				
8	52	40	33	28	48	37	30	26	31	26	22	25	21	18	20	17	15	13																																				
9	49	37	29	24	44	34	27	23	28	23	20	23	19	17	18	16	14	11																																				
10	46	34	27	22	41	31	25	20	26	21	18	21	18	15	17	14	12	10																																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1217	1217	1217
5°	1218	1199	1207
10°	1207	1182	1191
15°	1189	1162	1164
20°	1164	1134	1138
25°	1140	1101	1107
30°	1109	1070	1068
35°	1080	1033	1027
40°	1044	997	988
45°	1008	960	947
50°	969	921	901
55°	929	876	858
60°	882	823	809
65°	832	768	751
70°	767	700	689
75°	678	620	630
80°	570	516	520
85°	402	342	339

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 90°
 Luminance: 1398 cd/sqm



TEST NUMBER: P922052

CATALOG NUMBER: DFN2DIP-PN3F0-030D050US940-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.0	1.5
10°-20°	275.6	4.2
20°-30°	405.1	6.1
30°-40°	470.5	7.1
40°-50°	469.9	7.1
50°-60°	409.8	6.2
60°-70°	302.9	4.6
70°-80°	171.4	2.6
80°-90°	49.2	0.7
90°-100°	87.3	1.3
100°-110°	277.2	4.2
110°-120°	474.5	7.2
120°-130°	624.0	9.5
130°-140°	700.4	10.6
140°-150°	686.8	10.4
150°-160°	576.1	8.7
160°-170°	382.1	5.8
170°-180°	133.5	2.0
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0°-30°	778.7	11.8
0°-40°	1249.2	18.9
0°-60°	2128.9	32.3
0°-90°	2652.4	40.2
90°-120°	838.9	12.7
90°-150°	2850.1	43.2
90°-180°	3942.0	59.8
0°-180°	6594.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1041	1041	1041	1041	1041	
5°	1041	1037	1026	1034	1032	99
15°	991	985	972	976	971	279
25°	897	889	872	874	872	413
35°	774	764	748	742	737	483
45°	630	623	608	597	592	486
55°	476	470	458	446	442	426
65°	321	315	305	296	291	318
75°	168	166	161	155	157	179
85°	41	40	39	36	35	46
90°	1	15	42	39	40	6
95°	62	74	76	76	74	69
105°	256	259	262	264	264	270
115°	476	483	481	480	476	471
125°	692	703	700	696	695	619
135°	896	909	911	910	907	692
145°	1087	1096	1103	1104	1099	679
155°	1243	1247	1251	1257	1253	572
165°	1353	1351	1351	1360	1354	382
175°	1408	1404	1402	1410	1403	134
180°	1410	1410	1410	1410	1410	



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CATALOG NUMBER: DFN2DIP-PN3F0-030D050US940-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1040.9	1040.9	1040.9	1040.9	1040.9
2.5°	1047.0	1042.0	1030.9	1040.9	1039.0
5°	1040.9	1037.0	1025.9	1033.9	1032.0
7.5°	1033.9	1028.0	1016.9	1025.0	1023.0
10°	1023.0	1015.9	1004.0	1011.9	1009.0
12.5°	1007.9	1001.9	990.0	994.9	992.9
15°	990.9	985.0	971.9	975.9	970.9
17.5°	969.8	963.9	950.8	955.8	950.8
20°	946.8	940.8	926.8	929.8	925.9
22.5°	923.9	914.9	901.8	901.8	899.7
25°	896.8	888.9	871.8	873.8	871.8
27.5°	866.7	859.7	846.8	843.8	838.8
30°	836.8	828.8	813.8	810.7	806.7
32.5°	804.8	798.8	782.7	776.7	772.7
35°	773.7	763.7	747.7	741.6	736.6
37.5°	738.7	729.7	713.6	706.6	701.6
40°	702.7	694.6	678.6	669.7	665.7
42.5°	667.6	659.6	643.6	633.6	627.6
45°	629.6	622.6	607.5	596.6	592.5
47.5°	592.5	585.6	569.5	558.5	552.5
50°	553.5	548.5	534.5	520.5	515.5
52.5°	515.5	508.5	495.5	484.5	477.4
55°	476.5	470.5	458.4	446.5	441.5
57.5°	437.4	432.4	419.4	407.3	403.3
60°	398.3	394.4	380.4	369.3	366.4
62.5°	360.3	353.3	343.3	333.3	329.3
65°	321.4	315.3	305.3	296.3	291.3
67.5°	281.3	276.3	267.2	260.3	256.3
70°	244.2	240.2	231.2	224.2	220.3
72.5°	206.3	202.2	197.2	190.2	187.3
75°	168.1	166.2	161.1	155.2	157.2
77.5°	134.1	130.1	128.0	125.1	122.2
80°	100.1	99.1	97.0	94.1	92.1
82.5°	68.0	68.0	67.1	63.0	63.0
85°	41.0	40.0	39.1	36.0	35.0
87.5°	18.0	16.1	14.0	11.1	10.0
90°	1.2	15.3	41.6	39.1	40.4
92.5°	26.4	35.7	37.0	38.3	38.3
95°	62.1	74.0	76.1	76.1	74.0
97.5°	103.3	114.3	119.0	119.0	119.0
100°	150.9	160.7	164.1	164.1	162.8
102.5°	201.1	208.3	212.9	214.3	212.9
105°	255.9	259.3	261.9	263.9	263.9
107.5°	310.3	315.4	315.4	316.3	310.3
110°	363.0	369.9	369.9	369.9	366.4



TEST NUMBER: P922052

CATALOG NUMBER: DFN2DIP-PN3F0-030D050US940-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	420.0	427.2	426.0	422.6	420.0
115°	476.1	483.0	480.8	479.6	476.1
117.5°	531.8	541.2	535.2	531.8	528.4
120°	587.9	597.3	587.9	587.9	584.1
122.5°	638.9	650.9	644.9	641.5	638.9
125°	692.5	703.1	699.7	695.9	694.6
127.5°	744.8	758.0	753.3	748.1	744.8
130°	793.7	809.0	806.8	804.3	799.6
132.5°	848.6	860.4	861.3	855.3	851.9
135°	895.7	908.8	911.4	910.2	906.8
137.5°	948.4	959.0	961.2	960.3	955.2
140°	994.7	1005.4	1011.3	1011.3	1006.7
142.5°	1042.3	1053.0	1056.4	1057.7	1053.0
145°	1087.4	1095.9	1102.7	1104.0	1099.3
147.5°	1127.8	1138.4	1143.5	1145.7	1140.9
150°	1169.5	1176.7	1181.3	1185.2	1181.3
152.5°	1206.5	1213.7	1219.6	1224.3	1219.6
155°	1243.4	1246.8	1250.6	1256.6	1252.8
157.5°	1275.3	1277.8	1280.0	1288.5	1282.5
160°	1303.8	1306.4	1307.6	1314.8	1309.7
162.5°	1330.2	1330.2	1331.4	1339.5	1333.6
165°	1352.7	1351.4	1351.4	1359.9	1354.0
167.5°	1373.1	1369.2	1369.2	1377.8	1371.8
170°	1388.4	1385.0	1383.8	1392.2	1385.0
172.5°	1399.0	1395.6	1394.4	1402.8	1395.6
175°	1407.6	1404.1	1401.6	1410.1	1402.8
177.5°	1412.2	1408.8	1406.2	1413.5	1406.2
180°	1410.1	1410.1	1410.1	1410.1	1410.1



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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	6.94	7.72	7.97	8.76	10.16	6.50	7.28	7.53	8.32	9.72
	3H	8.58	9.28	9.63	10.33	11.76	8.10	8.80	9.15	9.85	11.28
	4H	9.16	9.83	10.22	10.88	12.31	8.68	9.34	9.74	10.40	11.83
	6H	9.55	10.16	10.62	11.22	12.67	9.07	9.68	10.13	10.73	12.18
	8H	9.65	10.24	10.73	11.31	12.75	9.16	9.75	10.24	10.82	12.26
	12H	9.70	10.25	10.78	11.32	12.78	9.20	9.75	10.28	10.82	12.28
4H	2H	7.38	8.05	8.45	9.10	10.53	7.03	7.69	8.10	8.75	10.18
	3H	9.23	9.79	10.31	10.87	12.31	8.83	9.39	9.91	10.47	11.91
	4H	9.94	10.45	11.02	11.52	12.99	9.52	10.03	10.60	11.10	12.57
	6H	10.45	10.88	11.53	11.98	13.44	10.02	10.46	11.11	11.55	13.01
	8H	10.59	11.00	11.68	12.08	13.56	10.16	10.57	11.25	11.66	13.13
	12H	10.66	11.02	11.76	12.13	13.61	10.22	10.59	11.32	11.69	13.17
8H	4H	10.13	10.53	11.21	11.62	13.10	9.76	10.16	10.84	11.25	12.73
	6H	10.75	11.08	11.86	12.21	13.68	10.37	10.71	11.48	11.84	13.31
	8H	10.96	11.26	12.08	12.37	13.86	10.58	10.87	11.70	11.99	13.48
	12H	11.09	11.34	12.21	12.45	13.98	10.69	10.95	11.81	12.05	13.58
12H	4H	10.11	10.48	11.21	11.58	13.06	9.75	10.11	10.85	11.22	12.70
	6H	10.77	11.07	11.89	12.18	13.67	10.41	10.71	11.53	11.82	13.31
	8H	11.01	11.27	12.13	12.37	13.90	10.64	10.90	11.76	12.00	13.53