

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: P919342

Luminaire Tested: DFN2DIP-PN3F0-030D090US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919342
REPORT IS A COMBINATION OF REPORTS P899596 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-030D090US935-RLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

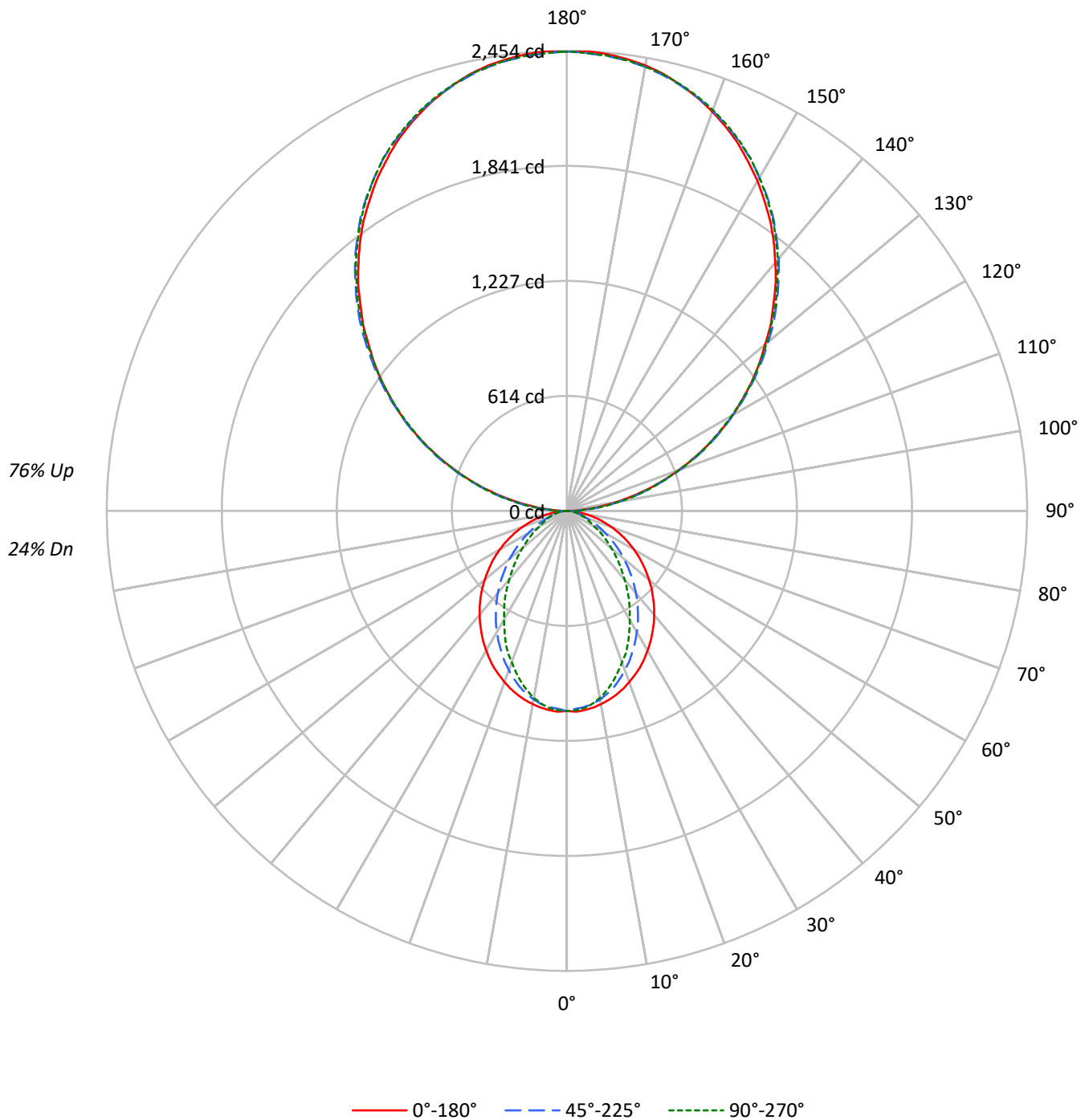
Lumens per Lamp: N/A
Luminaire Lumens: 9053.3 lumens
Efficiency: N/A
Efficacy: 95.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 95.1
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: P919342

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US935-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P919342

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US935-RLFL

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	69	69	69	50	50	50	33	33	33
1	92	88	85	81	82	79	76	73	61	59	57	44	43	42	29	28	28
2	84	77	71	67	75	69	64	60	53	50	47	39	37	35	26	25	24
3	77	68	61	56	68	61	55	50	47	43	40	35	32	30	23	22	20
4	70	60	53	47	62	54	48	43	42	38	34	31	28	26	21	19	18
5	64	54	46	40	57	48	42	37	38	33	29	28	25	22	19	17	16
6	59	48	40	35	53	43	37	32	34	29	26	25	22	20	17	15	14
7	55	43	36	30	49	39	32	28	31	26	23	23	20	17	16	14	12
8	51	39	32	27	45	35	29	24	28	23	20	21	18	16	14	12	11
9	47	36	29	24	42	32	26	22	25	21	18	19	16	14	13	11	10
10	44	33	26	21	39	29	23	19	23	19	16	18	15	13	12	10	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1248	1248	1248
5°	1249	1227	1235
10°	1236	1202	1195
15°	1218	1162	1132
20°	1195	1106	1055
25°	1171	1044	981
30°	1140	980	888
35°	1108	912	805
40°	1077	841	711
45°	1040	763	626
50°	1002	684	542
55°	962	600	462
60°	916	512	380
65°	862	423	341
70°	798	339	308
75°	717	297	279
80°	600	247	240
85°	407	160	177

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2428 cd/sqm

TEST NUMBER: P919342

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US935-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.1	1.1
10°-20°	274.7	3.0
20°-30°	385.6	4.3
30°-40°	420.3	4.6
40°-50°	386.3	4.3
50°-60°	303.4	3.4
60°-70°	197.5	2.2
70°-80°	101.7	1.1
80°-90°	32.9	0.4
90°-100°	151.6	1.7
100°-110°	481.8	5.3
110°-120°	824.6	9.1
120°-130°	1084.4	12.0
130°-140°	1217.2	13.4
140°-150°	1193.6	13.2
150°-160°	1001.3	11.1
160°-170°	664.0	7.3
170°-180°	232.1	2.6
0°-30°	760.3	8.4
0°-40°	1180.7	13.0
0°-60°	1870.4	20.7
0°-90°	2202.5	24.3
90°-120°	1458.0	16.1
90°-150°	4953.4	54.7
90°-180°	6851.0	75.7
0°-180°	9053.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1068	1063	1050	1059	1056	101
15°	1015	1005	972	954	944	286
25°	922	891	827	787	773	424
35°	794	745	660	599	578	497
45°	649	584	483	414	391	501
55°	494	418	314	256	238	441
65°	333	255	168	135	132	330
75°	178	110	77	70	70	188
85°	42	21	18	18	18	48
90°	2	27	72	68	70	9
95°	108	128	132	132	128	120
105°	445	451	455	459	459	469
115°	828	839	836	833	828	818
125°	1204	1222	1216	1209	1207	1076
135°	1557	1580	1584	1582	1576	1203
145°	1890	1905	1916	1919	1911	1181
155°	2161	2167	2174	2184	2177	995
165°	2351	2349	2349	2364	2353	663
175°	2446	2440	2436	2451	2438	232
180°	2451	2451	2451	2451	2451	

TEST NUMBER: P919342

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US935-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1067.6	1067.6	1067.6	1067.6	1067.6
2.5°	1072.4	1067.6	1056.9	1066.6	1064.7
5°	1067.6	1062.7	1050.2	1058.9	1055.9
7.5°	1058.9	1053.1	1039.6	1043.4	1038.5
10°	1047.2	1040.5	1021.2	1018.2	1012.5
12.5°	1032.8	1024.1	998.0	992.2	981.5
15°	1015.4	1004.7	971.9	953.6	943.9
17.5°	995.1	979.6	939.0	917.8	902.3
20°	971.9	952.5	904.2	880.2	858.8
22.5°	946.8	924.5	868.5	835.7	821.2
25°	921.7	890.7	827.0	787.4	772.8
27.5°	891.7	858.8	788.3	743.0	720.7
30°	859.9	823.1	745.8	696.6	670.5
32.5°	828.9	784.5	705.3	647.3	623.1
35°	794.2	744.8	659.9	599.0	577.7
37.5°	760.3	707.1	617.3	550.6	526.6
40°	724.6	666.7	572.9	504.3	479.2
42.5°	687.9	626.1	528.5	456.9	432.8
45°	649.3	584.4	483.1	414.4	391.2
47.5°	612.5	544.0	439.6	370.9	349.7
50°	572.0	503.3	397.1	330.4	310.1
52.5°	532.3	459.9	356.5	292.7	274.4
55°	493.6	418.3	313.9	256.1	237.7
57.5°	454.1	376.8	276.4	222.2	206.7
60°	413.5	336.2	236.7	187.4	172.0
62.5°	373.9	296.6	202.9	156.5	148.9
65°	333.3	255.0	168.1	135.3	132.3
67.5°	294.7	216.4	135.3	118.8	115.9
70°	254.1	178.7	112.0	102.4	98.5
72.5°	215.4	143.9	93.7	86.0	84.0
75°	177.7	110.1	77.3	70.5	69.6
77.5°	140.1	78.2	60.9	57.0	55.0
80°	105.3	56.1	46.3	42.5	42.5
82.5°	73.4	37.7	31.9	30.0	30.0
85°	41.5	21.2	18.3	18.3	18.3
87.5°	15.5	7.7	7.7	6.8	6.8
90°	2.2	26.6	72.4	67.9	70.2
92.5°	45.8	62.1	64.3	66.5	66.5
95°	107.9	128.5	132.2	132.2	128.5
97.5°	179.5	198.7	206.9	206.9	206.9
100°	262.3	279.3	285.2	285.2	283.0
102.5°	349.5	362.0	370.1	372.4	370.1
105°	444.8	450.6	455.1	458.8	458.8
107.5°	539.3	548.2	548.2	549.7	539.3
110°	630.9	642.8	642.8	642.8	636.9

TEST NUMBER: P919342

CATALOG NUMBER: DFN2DIP-PN3F0-030D090US935-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	730.0	742.5	740.3	734.4	730.0
115°	827.5	839.3	835.6	833.4	827.5
117.5°	924.3	940.6	930.2	924.3	918.3
120°	1021.8	1038.0	1021.8	1021.8	1015.1
122.5°	1110.4	1131.2	1120.8	1114.9	1110.4
125°	1203.6	1222.0	1216.2	1209.4	1207.3
127.5°	1294.4	1317.3	1309.2	1300.4	1294.4
130°	1379.4	1406.0	1402.3	1397.8	1389.7
132.5°	1474.7	1495.4	1496.8	1486.5	1480.7
135°	1556.7	1579.6	1584.1	1581.8	1576.0
137.5°	1648.3	1666.8	1670.5	1669.0	1660.2
140°	1728.9	1747.3	1757.6	1757.6	1749.5
142.5°	1811.6	1830.1	1836.0	1838.2	1830.1
145°	1890.0	1904.7	1916.5	1918.7	1910.6
147.5°	1960.1	1978.6	1987.4	1991.1	1983.1
150°	2032.6	2045.1	2053.2	2059.9	2053.2
152.5°	2096.8	2109.4	2119.7	2127.9	2119.7
155°	2161.1	2167.0	2173.7	2184.0	2177.4
157.5°	2216.5	2220.9	2224.6	2239.4	2229.0
160°	2266.0	2270.5	2272.7	2285.2	2276.3
162.5°	2311.8	2311.8	2314.0	2328.1	2317.7
165°	2351.0	2348.7	2348.7	2363.5	2353.2
167.5°	2386.4	2379.8	2379.8	2394.5	2384.2
170°	2413.0	2407.1	2404.9	2419.7	2407.1
172.5°	2431.5	2425.6	2423.4	2438.2	2425.6
175°	2446.3	2440.3	2435.9	2450.7	2438.2
177.5°	2454.4	2448.5	2444.0	2456.6	2444.0
180°	2450.7	2450.7	2450.7	2450.7	2450.7

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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	4.79	5.45	5.95	6.59	8.19	0.76	1.42	1.91	2.55	4.15
	3H	6.45	7.04	7.61	8.19	9.80	1.93	2.51	3.09	3.66	5.27
	4H	7.05	7.61	8.22	8.75	10.37	2.36	2.92	3.54	4.07	5.69
	6H	7.45	7.97	8.63	9.12	10.75	2.67	3.18	3.85	4.33	5.96
	8H	7.57	8.06	8.75	9.23	10.85	2.75	3.24	3.93	4.41	6.03
	12H	7.63	8.09	8.81	9.25	10.89	2.79	3.25	3.97	4.41	6.05
4H	2H	4.79	5.35	5.97	6.49	8.11	1.33	1.89	2.51	3.03	4.65
	3H	6.59	7.06	7.78	8.23	9.86	2.66	3.12	3.84	4.29	5.92
	4H	7.27	7.70	8.46	8.86	10.51	3.19	3.62	4.38	4.78	6.43
	6H	7.77	8.14	8.96	9.32	10.96	3.59	3.96	4.78	5.14	6.78
	8H	7.94	8.28	9.13	9.46	11.11	3.72	4.06	4.90	5.23	6.89
	12H	8.03	8.34	9.23	9.52	11.18	3.77	4.08	4.97	5.27	6.92
8H	4H	7.23	7.57	8.41	8.74	10.40	3.46	3.80	4.64	4.97	6.63
	6H	7.78	8.06	8.99	9.28	10.93	3.96	4.24	5.16	5.46	7.11
	8H	7.99	8.24	9.20	9.43	11.10	4.15	4.39	5.36	5.58	7.26
	12H	8.12	8.33	9.33	9.53	11.23	4.25	4.47	5.47	5.66	7.36
12H	4H	7.17	7.48	8.37	8.67	10.32	3.45	3.76	4.65	4.95	6.60
	6H	7.76	8.00	8.97	9.19	10.87	4.01	4.25	5.22	5.44	7.12
	8H	7.96	8.18	9.18	9.37	11.07	4.20	4.42	5.42	5.61	7.31