

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: P922215

Luminaire Tested: DFN2DIP-PN3F0-090D030US940-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P922215
REPORT IS A COMBINATION OF REPORTS P901044 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-090D030US940-RLLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

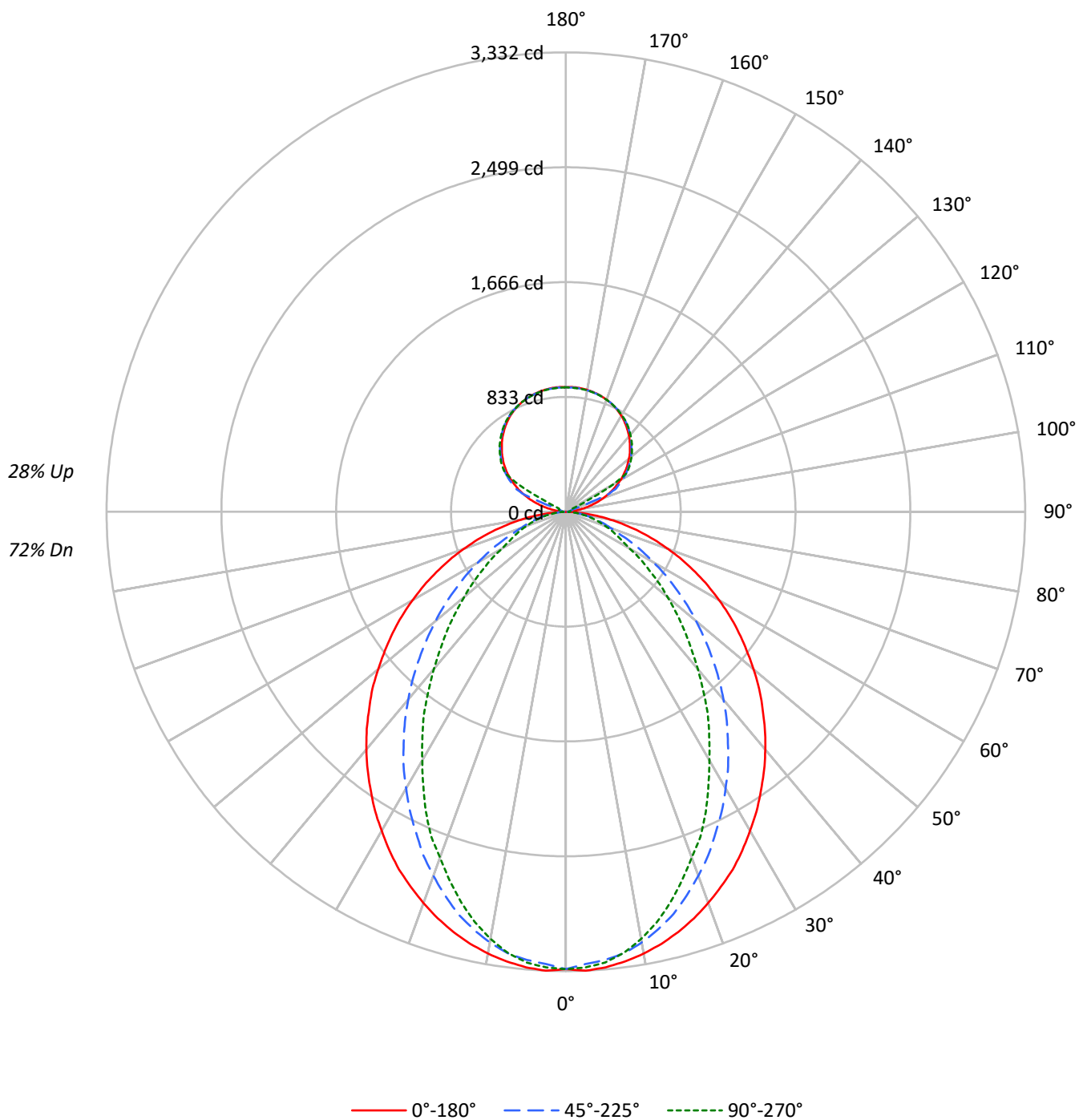
Lumens per Lamp: N/A
Luminaire Lumens: 9470.0 lumens
Efficiency: N/A
Efficacy: 81.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 116.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9954
Total Harmonic Distortion (THDi): 0.076
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P922215

CATALOG NUMBER: DFN2DIP-PN3F0-090D030US940-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P922215

CATALOG NUMBER: DFN2DIP-PN3F0-090D030US940-RLLONL

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	112	112	112	112	107	107	107	107	96	96	96	86	86	86	76	76	76
1	103	99	95	92	98	94	91	88	85	82	80	76	75	73	69	67	66
2	95	87	81	76	90	83	78	73	75	71	68	68	65	62	61	59	57
3	87	78	70	65	82	74	67	62	67	62	58	61	57	53	55	52	49
4	80	69	61	55	76	66	59	54	60	54	50	55	50	46	50	46	43
5	74	62	54	48	70	59	52	47	54	48	44	50	45	41	45	41	38
6	68	56	48	42	65	54	46	41	49	43	39	45	40	36	41	37	34
7	63	51	43	38	60	49	42	36	45	39	34	41	36	32	38	34	30
8	59	47	39	34	56	45	38	33	41	35	31	38	33	29	35	31	27
9	55	43	35	30	52	41	34	30	38	32	28	35	30	26	32	28	25
10	52	40	32	28	49	38	31	27	35	29	25	33	28	24	30	26	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3877	3877	3877
5°	3881	3813	3839
10°	3841	3736	3712
15°	3785	3610	3517
20°	3713	3437	3279
25°	3639	3244	3049
30°	3541	3046	2758
35°	3444	2833	2502
40°	3345	2614	2209
45°	3231	2371	1944
50°	3113	2126	1685
55°	2989	1864	1436
60°	2845	1591	1180
65°	2680	1313	1061
70°	2479	1055	957
75°	2227	924	867
80°	1863	766	747
85°	1264	499	551

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3231 cd/sqm

TEST NUMBER: P922215

CATALOG NUMBER: DFN2DIP-PN3F0-090D030US940-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.9	3.3
10°-20°	853.4	9.0
20°-30°	1198.1	12.7
30°-40°	1306.0	13.8
40°-50°	1200.4	12.7
50°-60°	942.7	10.0
60°-70°	613.6	6.5
70°-80°	315.9	3.3
80°-90°	82.2	0.9
90°-100°	29.8	0.3
100°-110°	111.0	1.2
110°-120°	294.3	3.1
120°-130°	488.2	5.2
130°-140°	518.5	5.5
140°-150°	481.9	5.1
150°-160°	387.5	4.1
160°-170°	249.7	2.6
170°-180°	85.9	0.9
0°-30°	2362.4	24.9
0°-40°	3668.4	38.7
0°-60°	5811.5	61.4
0°-90°	6823.2	72.1
90°-120°	435.1	4.6
90°-150°	1923.7	20.3
90°-180°	2647.0	28.0
0°-180°	9470.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3317	3317	3317	3317	3317	
5°	3317	3302	3263	3290	3281	315
15°	3155	3122	3020	2963	2933	889
25°	2864	2768	2570	2446	2401	1317
35°	2468	2314	2050	1861	1795	1544
45°	2017	1816	1501	1288	1216	1558
55°	1534	1300	975	796	738	1371
65°	1036	792	522	420	411	1027
75°	552	342	240	219	216	584
85°	129	66	57	57	57	148
90°	1	8	13	16	18	9
95°	42	21	25	29	28	50
105°	199	218	40	47	50	212
115°	376	387	403	101	54	370
125°	531	540	552	557	559	474
135°	657	668	674	680	679	508
145°	762	762	773	777	774	477
155°	840	834	841	845	840	387
165°	884	881	883	887	883	250
175°	905	900	902	906	900	86
180°	903	903	903	903	903	

TEST NUMBER: P922215

CATALOG NUMBER: DFN2DIP-PN3F0-090D030US940-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3316.9	3316.9	3316.9	3316.9	3316.9
2.5°	3331.9	3316.9	3283.7	3314.0	3308.0
5°	3316.9	3301.9	3262.8	3289.8	3280.9
7.5°	3289.8	3272.0	3230.0	3241.7	3226.7
10°	3253.9	3232.8	3173.0	3163.7	3145.9
12.5°	3208.9	3181.9	3100.7	3082.8	3049.6
15°	3154.8	3121.7	3019.8	2962.7	2932.8
17.5°	3091.7	3043.7	2917.5	2851.6	2803.5
20°	3019.8	2959.6	2809.5	2734.7	2668.4
22.5°	2941.8	2872.6	2698.4	2596.5	2551.6
25°	2863.7	2767.5	2569.5	2446.5	2401.3
27.5°	2770.7	2668.4	2449.4	2308.3	2239.2
30°	2671.7	2557.3	2317.2	2164.4	2083.1
32.5°	2575.4	2437.2	2191.4	2011.2	1936.0
35°	2467.5	2314.3	2050.3	1861.2	1794.9
37.5°	2362.4	2197.2	1918.2	1710.8	1636.0
40°	2251.3	2071.4	1779.9	1566.9	1488.9
42.5°	2137.3	1945.3	1642.0	1419.8	1344.9
45°	2017.2	1816.0	1500.9	1287.5	1215.6
47.5°	1903.2	1690.1	1365.9	1152.5	1086.6
50°	1777.1	1564.0	1233.8	1026.4	963.7
52.5°	1653.9	1428.7	1107.7	909.5	852.6
55°	1533.7	1299.7	975.4	795.6	738.5
57.5°	1410.9	1170.7	858.6	690.5	642.4
60°	1284.7	1044.5	735.4	582.5	534.4
62.5°	1161.8	921.7	630.3	486.3	462.4
65°	1035.6	792.4	522.3	420.4	411.2
67.5°	915.6	672.3	420.4	369.1	360.2
70°	789.5	555.4	348.1	318.2	306.0
72.5°	669.4	447.1	291.1	267.2	261.2
75°	552.2	342.1	240.1	219.1	216.2
77.5°	435.3	243.0	189.1	177.1	171.0
80°	327.1	174.2	143.9	132.2	132.2
82.5°	228.0	117.2	99.1	93.0	93.0
85°	128.9	65.9	57.0	57.0	57.0
87.5°	48.1	23.9	23.9	21.0	21.0
90°	0.6	7.8	13.0	16.4	17.6
92.5°	16.4	13.7	15.7	17.0	17.6
95°	42.4	20.9	25.4	28.8	28.1
97.5°	76.4	22.9	33.3	35.3	35.9
100°	115.7	26.1	37.3	42.4	43.8
102.5°	158.7	157.5	38.5	45.7	47.7
105°	198.6	218.2	39.9	47.0	49.7
107.5°	245.0	261.3	41.2	48.3	51.0
110°	289.4	303.1	114.3	49.0	51.6



TEST NUMBER: P922215

CATALOG NUMBER: DFN2DIP-PN3F0-090D030US940-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	331.3	343.0	331.9	50.3	52.3
115°	375.6	386.7	403.1	100.6	53.6
117.5°	414.2	427.2	438.4	344.9	173.8
120°	457.3	467.1	478.8	486.7	398.5
122.5°	493.8	504.4	517.5	521.3	522.0
125°	531.1	539.6	552.1	556.6	558.6
127.5°	565.1	574.2	584.1	590.6	591.2
130°	597.1	607.6	614.7	621.9	621.3
132.5°	629.7	638.3	645.4	651.3	650.7
135°	657.2	667.7	673.5	680.1	678.8
137.5°	685.9	693.8	700.3	706.9	704.9
140°	714.0	719.3	726.4	732.3	729.1
142.5°	737.6	742.2	750.6	755.8	752.6
145°	762.4	761.7	772.8	777.4	774.1
147.5°	783.9	781.9	793.1	796.3	793.7
150°	804.9	800.3	810.7	814.6	811.4
152.5°	822.4	817.3	827.1	831.0	826.4
155°	839.5	833.7	841.4	845.3	840.2
157.5°	853.2	848.0	853.9	858.4	853.2
160°	865.0	861.0	865.0	868.9	864.2
162.5°	875.4	871.5	874.8	879.3	873.4
165°	884.5	880.7	882.6	887.2	882.6
167.5°	891.7	887.8	889.7	894.4	888.5
170°	897.6	893.7	895.0	899.6	893.7
172.5°	901.5	897.6	898.9	903.5	897.6
175°	904.7	900.2	901.5	906.1	899.6
177.5°	906.1	901.5	902.2	906.8	900.9
180°	902.9	902.9	902.9	902.9	902.9

TEST NUMBER: P922215

CATALOG NUMBER: DFN2DIP-PN3F0-090D030US940-RLONL

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	13.67	14.72	14.42	15.48	16.40	9.63	10.68	10.38	11.45	12.37
	3H	15.36	16.30	16.12	17.07	18.02	10.83	11.77	11.60	12.55	13.50
	4H	15.97	16.86	16.75	17.64	18.60	11.29	12.17	12.07	12.96	13.92
	6H	16.40	17.21	17.19	18.01	18.98	11.62	12.43	12.41	13.22	14.20
	8H	16.53	17.30	17.33	18.12	19.09	11.71	12.49	12.51	13.30	14.28
	12H	16.59	17.33	17.40	18.14	19.14	11.76	12.50	12.57	13.30	14.31
4H	2H	13.71	14.60	14.50	15.38	16.34	10.25	11.14	11.04	11.92	12.89
	3H	15.55	16.29	16.35	17.11	18.09	11.62	12.35	12.41	13.17	14.15
	4H	16.25	16.92	17.06	17.73	18.74	12.17	12.83	12.98	13.65	14.66
	6H	16.77	17.35	17.60	18.19	19.20	12.59	13.17	13.42	14.01	15.02
	8H	16.95	17.48	17.78	18.32	19.35	12.72	13.26	13.55	14.10	15.12
	12H	17.05	17.53	17.90	18.39	19.42	12.79	13.28	13.64	14.13	15.17
8H	4H	16.23	16.77	17.06	17.61	18.63	12.46	13.00	13.29	13.84	14.86
	6H	16.80	17.24	17.66	18.12	19.15	12.98	13.42	13.84	14.30	15.33
	8H	17.01	17.41	17.88	18.28	19.33	13.17	13.56	14.04	14.44	15.48
	12H	17.16	17.50	18.03	18.37	19.47	13.29	13.64	14.16	14.50	15.60
12H	4H	16.19	16.68	17.04	17.53	18.57	12.47	12.96	13.32	13.82	14.85
	6H	16.77	17.17	17.64	18.04	19.09	13.03	13.42	13.90	14.30	15.34
	8H	17.00	17.35	17.87	18.21	19.31	13.24	13.59	14.11	14.46	15.55

END OF REPORT