

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: P916512

Luminaire Tested: DFN2DIP-PN2F0-030D030US930-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916512
REPORT IS A COMBINATION OF REPORTS P899473 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-030D030US930-FLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

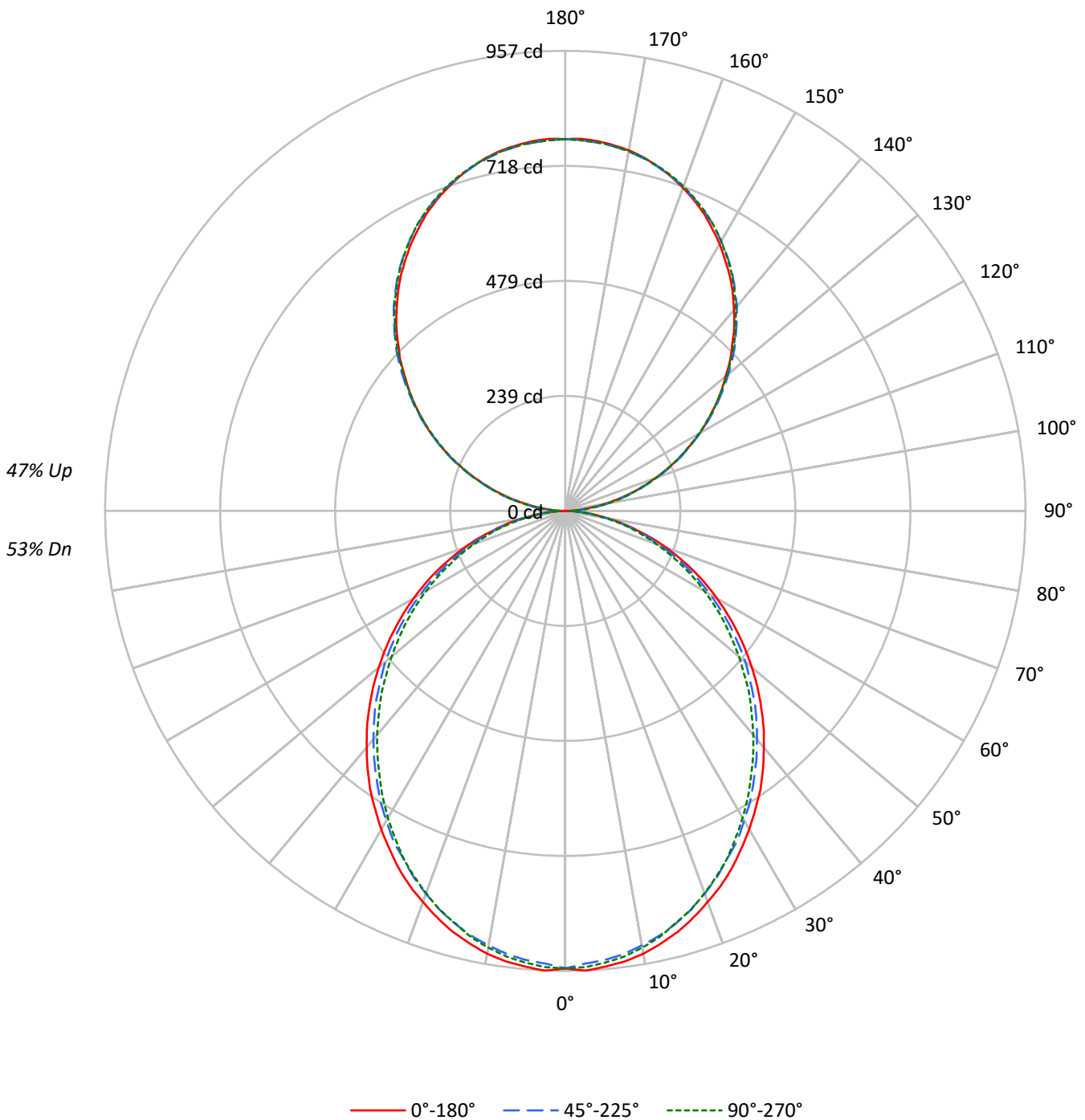
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4586.0 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 46.7
Input Voltage (V): 120
Input Current (A_{in}): 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: P916512
CATALOG NUMBER: DFN2DIP-PN2F0-030D030US930-FLLFLL

Luminous Intensity Polar Plot





TEST NUMBER: P916512
 CATALOG NUMBER: DFN2DIP-PN2F0-030D030US930-FLLFLL

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	0
RCR																		
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	51	50	45
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42	37
3	82	72	65	59	75	67	61	55	58	53	49	49	45	42	41	38	36	32
4	75	64	56	50	69	60	52	47	51	46	41	43	39	36	36	33	31	27
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27	24
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24	21
7	59	46	38	33	54	43	36	31	37	32	28	32	28	24	27	24	21	18
8	54	42	34	29	50	39	32	27	34	29	24	29	25	22	25	21	19	16
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2061	2061	2061
5°	2061	2028	2043
10°	2041	1996	2013
15°	2008	1959	1966
20°	1964	1909	1919
25°	1920	1850	1865
30°	1866	1795	1797
35°	1815	1731	1725
40°	1752	1665	1657
45°	1689	1600	1587
50°	1621	1531	1506
55°	1548	1451	1430
60°	1466	1357	1344
65°	1377	1259	1243
70°	1262	1140	1132
75°	1106	997	1026
80°	915	814	833
85°	621	514	521

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1689 cd/sqm



TEST NUMBER: P916512

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US930-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.6	2.0
10°-20°	252.0	5.5
20°-30°	370.4	8.1
30°-40°	430.2	9.4
40°-50°	429.7	9.4
50°-60°	374.6	8.2
60°-70°	277.0	6.0
70°-80°	156.7	3.4
80°-90°	43.5	0.9
90°-100°	47.9	1.0
100°-110°	152.1	3.3
110°-120°	260.3	5.7
120°-130°	342.3	7.5
130°-140°	384.2	8.4
140°-150°	376.8	8.2
150°-160°	316.1	6.9
160°-170°	209.6	4.6
170°-180°	73.3	1.6
0°-30°	712.0	15.5
0°-40°	1142.2	24.9
0°-60°	1946.5	42.4
0°-90°	2423.6	52.8
90°-120°	460.2	10.0
90°-150°	1563.5	34.1
90°-180°	2162.0	47.1
0°-180°	4586.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	952	952	952	952	952	
5°	952	948	938	945	944	90
15°	906	901	889	892	888	255
25°	820	813	797	799	797	377
35°	707	698	684	678	674	442
45°	576	569	556	545	542	444
55°	436	430	419	408	404	390
65°	294	288	279	271	266	290
75°	154	152	147	142	144	164
85°	38	37	36	33	32	42
90°	1	8	23	21	22	4
95°	34	41	42	42	41	38
105°	140	142	144	145	145	148
115°	261	265	264	263	261	258
125°	380	386	384	382	381	339
135°	491	499	500	499	497	380
145°	597	601	605	606	603	373
155°	682	684	686	689	687	314
165°	742	741	741	746	743	209
175°	772	770	769	774	770	73
180°	774	774	774	774	774	



TEST NUMBER: P916512

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US930-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	951.7	951.7	951.7	951.7	951.7
2.5°	957.2	952.7	942.6	951.7	950.0
5°	951.7	948.1	938.0	945.3	943.5
7.5°	945.3	939.9	929.8	937.2	935.3
10°	935.3	928.9	917.9	925.2	922.5
12.5°	921.5	916.1	905.1	909.6	907.8
15°	906.0	900.6	888.6	892.3	887.7
17.5°	886.7	881.3	869.4	873.9	869.4
20°	865.7	860.2	847.4	850.1	846.5
22.5°	844.7	836.5	824.5	824.5	822.6
25°	819.9	812.7	797.1	798.9	797.1
27.5°	792.5	786.0	774.2	771.5	767.0
30°	765.1	757.7	744.0	741.3	737.6
32.5°	735.8	730.3	715.7	710.1	706.5
35°	707.4	698.3	683.6	678.1	673.5
37.5°	675.4	667.2	652.5	646.0	641.5
40°	642.5	635.1	620.4	612.3	608.6
42.5°	610.4	603.1	588.5	579.3	573.8
45°	575.7	569.2	555.5	545.4	541.8
47.5°	541.8	535.4	520.7	510.6	505.2
50°	506.1	501.5	488.7	475.9	471.3
52.5°	471.3	464.9	453.1	443.0	436.5
55°	435.7	430.2	419.1	408.2	403.7
57.5°	399.9	395.3	383.4	372.4	368.8
60°	364.2	360.6	347.8	337.7	335.0
62.5°	329.5	323.0	313.9	304.8	301.1
65°	293.8	288.3	279.2	270.9	266.4
67.5°	257.2	252.6	244.3	238.0	234.3
70°	223.3	219.6	211.4	205.0	201.4
72.5°	188.6	184.8	180.3	173.9	171.2
75°	153.7	152.0	147.3	141.9	143.7
77.5°	122.6	119.0	117.1	114.4	111.7
80°	91.6	90.6	88.7	86.0	84.2
82.5°	62.2	62.2	61.4	57.6	57.6
85°	37.5	36.6	35.7	32.9	32.0
87.5°	16.5	14.7	12.8	10.1	9.1
90°	0.7	8.4	22.8	21.4	22.2
92.5°	14.4	19.6	20.3	21.0	21.0
95°	34.1	40.6	41.7	41.7	40.6
97.5°	56.7	62.7	65.3	65.3	65.3
100°	82.8	88.1	90.0	90.0	89.4
102.5°	110.3	114.3	116.8	117.6	116.8
105°	140.4	142.3	143.7	144.8	144.8
107.5°	170.2	173.0	173.0	173.5	170.2
110°	199.2	202.9	202.9	202.9	201.1



TEST NUMBER: P916512

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US930-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	230.4	234.4	233.7	231.8	230.4
115°	261.2	264.9	263.7	263.1	261.2
117.5°	291.7	296.9	293.6	291.7	289.8
120°	322.5	327.7	322.5	322.5	320.4
122.5°	350.5	357.0	353.8	351.9	350.5
125°	379.9	385.7	383.8	381.7	381.1
127.5°	408.5	415.8	413.3	410.4	408.5
130°	435.4	443.8	442.6	441.2	438.6
132.5°	465.5	472.0	472.5	469.2	467.3
135°	491.4	498.6	500.0	499.3	497.4
137.5°	520.2	526.1	527.3	526.8	524.0
140°	545.7	551.5	554.8	554.8	552.2
142.5°	571.9	577.6	579.5	580.2	577.6
145°	596.6	601.2	605.0	605.6	603.1
147.5°	618.7	624.5	627.3	628.5	625.9
150°	641.6	645.6	648.1	650.2	648.1
152.5°	661.9	665.8	669.0	671.6	669.0
155°	682.2	684.0	686.1	689.3	687.3
157.5°	699.6	701.0	702.2	706.9	703.6
160°	715.3	716.6	717.4	721.3	718.5
162.5°	729.7	729.7	730.4	734.8	731.6
165°	742.1	741.4	741.4	746.0	742.7
167.5°	753.3	751.1	751.1	755.8	752.5
170°	761.7	759.8	759.1	763.8	759.8
172.5°	767.4	765.6	764.9	769.6	765.6
175°	772.2	770.3	768.9	773.6	769.6
177.5°	774.7	772.8	771.4	775.4	771.4
180°	773.6	773.6	773.6	773.6	773.6



TEST NUMBER: P916512
 CATALOG NUMBER: DFN2DIP-PN2F0-030D030US930-FLLFLL

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	9.93	10.81	10.86	11.76	12.99	9.49	10.38	10.42	11.33	12.56
	3H	11.57	12.36	12.51	13.32	14.58	11.09	11.88	12.03	12.84	14.10
	4H	12.14	12.90	13.10	13.86	15.12	11.66	12.42	12.62	13.38	14.64
	6H	12.53	13.22	13.50	14.19	15.47	12.04	12.74	13.01	13.71	14.98
	8H	12.63	13.29	13.60	14.27	15.55	12.14	12.80	13.12	13.79	15.06
	12H	12.67	13.30	13.65	14.28	15.58	12.18	12.81	13.16	13.78	15.08
4H	2H	10.38	11.13	11.34	12.10	13.36	10.03	10.78	10.99	11.75	13.01
	3H	12.23	12.85	13.20	13.85	15.12	11.83	12.45	12.80	13.45	14.72
	4H	12.92	13.50	13.91	14.49	15.79	12.51	13.09	13.49	14.07	15.37
	6H	13.42	13.92	14.42	14.93	16.23	13.00	13.50	14.00	14.51	15.81
	8H	13.56	14.03	14.56	15.03	16.34	13.14	13.60	14.14	14.61	15.92
	12H	13.63	14.05	14.64	15.06	16.38	13.19	13.61	14.21	14.63	15.95
8H	4H	13.11	13.58	14.11	14.58	15.89	12.74	13.21	13.74	14.21	15.52
	6H	13.72	14.10	14.74	15.15	16.46	13.35	13.73	14.37	14.78	16.09
	8H	13.93	14.27	14.96	15.30	16.63	13.55	13.88	14.58	14.92	16.25
	12H	14.05	14.34	15.08	15.37	16.74	13.65	13.95	14.68	14.97	16.35
12H	4H	13.10	13.51	14.11	14.53	15.85	12.74	13.15	13.75	14.17	15.49
	6H	13.75	14.08	14.78	15.12	16.45	13.38	13.72	14.41	14.75	16.08
	8H	13.97	14.27	15.01	15.30	16.67	13.60	13.90	14.64	14.93	16.30