

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: P913972

Luminaire Tested: DFN2DIP-PN3F0-070D030US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913972
REPORT IS A COMBINATION OF REPORTS P899519 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-070D030US927-FLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

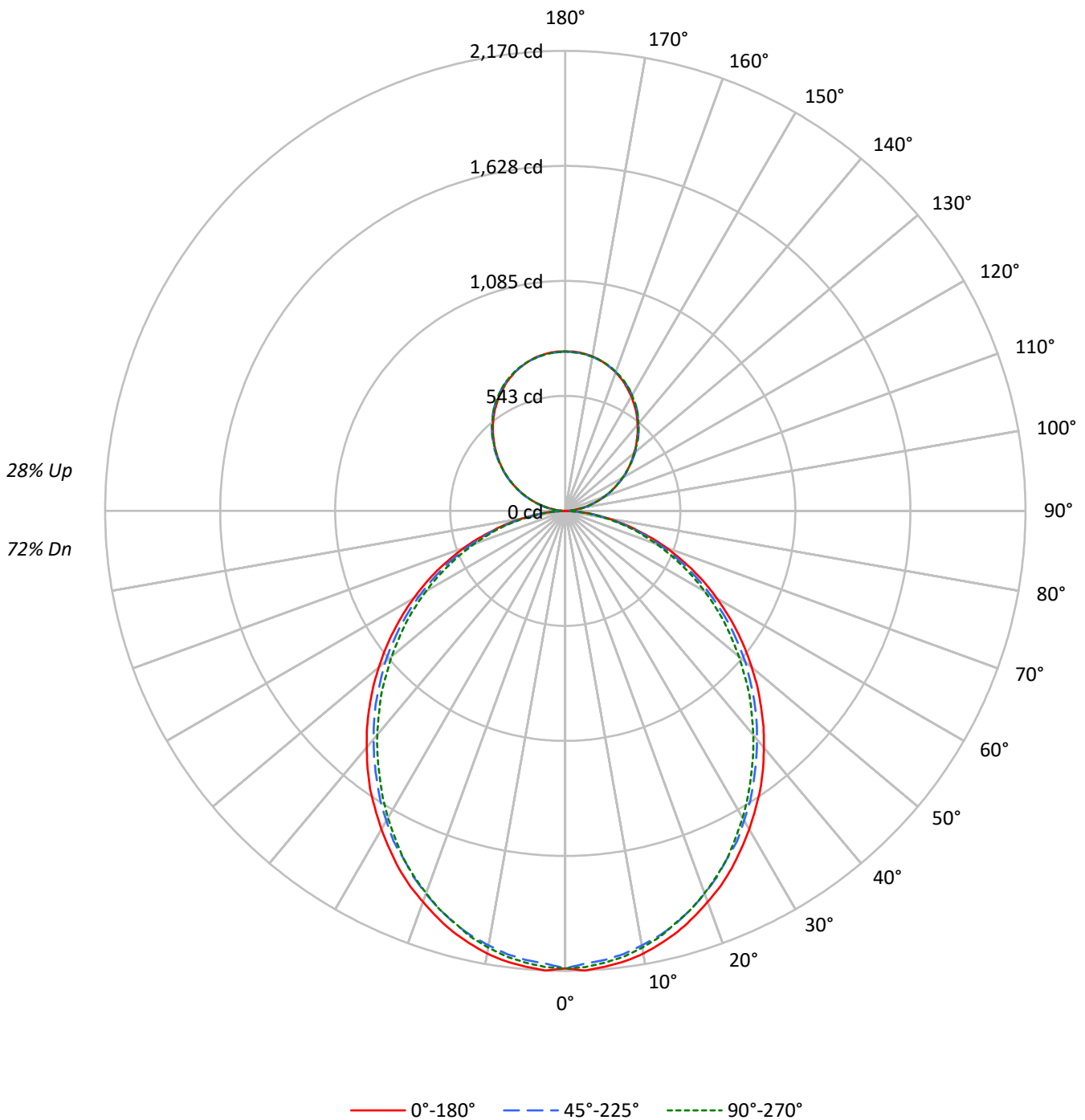
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7593.1 lumens
Efficiency: N/A
Efficacy: 81.8 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: Semi-Direct

Input Watts (W): 92.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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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	0
RCR																		
0	112	112	112	112	107	107	107	107	96	96	96	86	86	86	77	77	77	72
1	103	98	94	91	97	93	90	87	84	81	79	76	74	72	68	66	65	61
2	94	86	80	74	89	82	76	71	74	69	65	66	63	60	60	57	55	51
3	85	76	68	62	81	72	65	60	65	60	55	59	54	51	53	49	46	43
4	78	67	59	52	74	64	56	51	58	52	47	52	48	44	47	43	40	37
5	72	60	51	45	68	57	49	44	52	46	41	47	42	38	43	38	35	32
6	66	54	45	39	63	51	44	38	47	40	36	43	37	33	39	34	31	28
7	62	49	41	35	58	47	39	34	43	36	32	39	34	30	35	31	27	25
8	57	44	36	31	54	43	35	30	39	33	28	36	30	26	33	28	25	23
9	53	41	33	28	51	39	32	27	36	30	25	33	28	24	30	26	22	20
10	50	37	30	25	47	36	29	24	33	27	23	30	25	22	28	24	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2522	2522	2522
5°	2525	2485	2503
10°	2503	2450	2468
15°	2465	2408	2414
20°	2413	2350	2359
25°	2362	2282	2295
30°	2299	2217	2214
35°	2238	2142	2129
40°	2164	2066	2047
45°	2090	1989	1964
50°	2010	1909	1868
55°	1925	1816	1779
60°	1829	1706	1677
65°	1724	1592	1557
70°	1590	1452	1428
75°	1405	1285	1307
80°	1182	1071	1078
85°	834	709	702

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2090 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.1	2.7
10°-20°	571.4	7.5
20°-30°	839.7	11.1
30°-40°	975.3	12.8
40°-50°	974.1	12.8
50°-60°	849.4	11.2
60°-70°	627.9	8.3
70°-80°	355.2	4.7
80°-90°	95.9	1.3
90°-100°	46.5	0.6
100°-110°	147.8	1.9
110°-120°	252.9	3.3
120°-130°	332.6	4.4
130°-140°	373.3	4.9
140°-150°	366.1	4.8
150°-160°	307.1	4.0
160°-170°	203.7	2.7
170°-180°	71.2	0.9
0°-30°	1614.2	21.3
0°-40°	2589.5	34.1
0°-60°	4412.9	58.1
0°-90°	5492.0	72.3
90°-120°	447.2	5.9
90°-150°	1519.2	20.0
90°-180°	2101.0	27.7
0°-180°	7593.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2158	2158	2158	2158	2158	
5°	2158	2150	2127	2143	2139	205
15°	2054	2042	2015	2023	2013	578
25°	1859	1842	1807	1811	1807	855
35°	1604	1583	1550	1537	1527	1002
45°	1305	1291	1259	1237	1228	1007
55°	988	975	950	925	915	883
65°	666	654	633	614	604	659
75°	348	344	334	322	326	372
85°	85	83	81	75	73	95
90°	1	8	22	21	22	7
95°	33	40	41	41	40	37
105°	136	138	140	141	141	144
115°	254	257	256	256	254	251
125°	369	375	373	371	370	330
135°	477	484	486	485	483	369
145°	580	584	588	588	586	362
155°	663	665	667	670	668	305
165°	721	720	720	725	722	203
175°	750	748	747	752	748	71
180°	752	752	752	752	752	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2157.7	2157.7	2157.7	2157.7	2157.7
2.5°	2170.3	2159.9	2137.0	2157.7	2153.7
5°	2157.7	2149.6	2126.7	2143.2	2139.2
7.5°	2143.2	2130.8	2107.9	2124.7	2120.5
10°	2120.5	2105.9	2081.1	2097.6	2091.4
12.5°	2089.2	2076.9	2052.1	2062.4	2058.2
15°	2054.0	2041.7	2014.6	2023.0	2012.6
17.5°	2010.4	1998.1	1971.0	1981.4	1971.0
20°	1962.6	1950.4	1921.3	1927.5	1919.3
22.5°	1915.1	1896.4	1869.3	1869.3	1865.1
25°	1859.0	1842.5	1807.3	1811.2	1807.3
27.5°	1796.7	1782.2	1755.3	1749.1	1738.8
30°	1734.6	1717.8	1686.9	1680.7	1672.3
32.5°	1668.1	1655.8	1622.5	1610.0	1601.6
35°	1603.8	1583.2	1549.9	1537.4	1527.0
37.5°	1531.2	1512.5	1479.2	1464.7	1454.4
40°	1456.6	1439.9	1406.6	1388.1	1379.7
42.5°	1383.9	1367.2	1334.2	1313.3	1300.9
45°	1305.1	1290.6	1259.3	1236.7	1228.3
47.5°	1228.3	1213.8	1180.5	1157.6	1145.3
50°	1147.3	1136.9	1107.9	1078.9	1068.5
52.5°	1068.5	1054.0	1027.1	1004.2	989.7
55°	987.7	975.2	950.3	925.4	915.0
57.5°	906.7	896.4	869.3	844.4	836.1
60°	825.7	817.5	788.5	765.6	759.5
62.5°	746.9	732.4	711.7	691.0	682.6
65°	666.1	653.5	632.9	614.2	603.8
67.5°	583.1	572.6	554.1	539.6	531.2
70°	506.3	498.0	479.2	464.7	456.5
72.5°	427.5	419.1	408.8	394.3	388.1
75°	348.5	344.5	333.9	321.6	325.8
77.5°	278.1	269.7	265.5	259.3	253.2
80°	207.6	205.4	201.2	195.0	190.8
82.5°	141.1	141.1	139.1	130.8	130.8
85°	85.0	83.0	81.0	74.6	72.6
87.5°	37.4	33.3	29.1	22.9	20.7
90°	0.7	8.2	22.2	20.8	21.5
92.5°	14.0	19.0	19.7	20.4	20.4
95°	33.1	39.5	40.6	40.6	39.5
97.5°	55.1	60.9	63.5	63.5	63.5
100°	80.4	85.6	87.5	87.5	86.8
102.5°	107.2	111.1	113.5	114.2	113.5
105°	136.4	138.2	139.6	140.7	140.7
107.5°	165.4	168.1	168.1	168.6	165.4
110°	193.5	197.2	197.2	197.2	195.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	223.9	227.8	227.0	225.2	223.9
115°	253.8	257.4	256.3	255.6	253.8
117.5°	283.4	288.4	285.3	283.4	281.6
120°	313.4	318.4	313.4	313.4	311.3
122.5°	340.6	346.9	343.7	341.9	340.6
125°	369.2	374.8	373.0	370.9	370.3
127.5°	397.0	404.0	401.6	398.8	397.0
130°	423.0	431.2	430.1	428.7	426.2
132.5°	452.3	458.6	459.1	455.9	454.1
135°	477.4	484.4	485.8	485.1	483.3
137.5°	505.5	511.2	512.3	511.9	509.1
140°	530.2	535.9	539.1	539.1	536.5
142.5°	555.6	561.3	563.1	563.8	561.3
145°	579.6	584.2	587.8	588.4	586.0
147.5°	601.2	606.8	609.5	610.7	608.2
150°	623.4	627.2	629.7	631.8	629.7
152.5°	643.1	646.9	650.1	652.6	650.1
155°	662.8	664.6	666.6	669.8	667.8
157.5°	679.8	681.1	682.3	686.8	683.7
160°	695.0	696.3	697.0	700.8	698.1
162.5°	709.0	709.0	709.7	714.0	710.8
165°	721.0	720.3	720.3	724.8	721.7
167.5°	731.9	729.8	729.8	734.4	731.2
170°	740.1	738.2	737.6	742.1	738.2
172.5°	745.7	743.9	743.2	747.7	743.9
175°	750.3	748.5	747.1	751.6	747.7
177.5°	752.7	750.9	749.6	753.4	749.6
180°	751.6	751.6	751.6	751.6	751.6



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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	12.29	13.40	13.03	14.16	15.07	11.85	12.96	12.59	13.72	14.63
	3H	13.97	14.96	14.72	15.73	16.67	13.48	14.48	14.23	15.25	16.19
	4H	14.56	15.50	15.33	16.28	17.23	14.07	15.01	14.84	15.79	16.75
	6H	14.97	15.83	15.75	16.62	17.59	14.48	15.34	15.26	16.13	17.10
	8H	15.08	15.90	15.87	16.71	17.68	14.59	15.41	15.38	16.22	17.19
	12H	15.13	15.92	15.93	16.72	17.72	14.63	15.42	15.43	16.22	17.22
4H	2H	12.78	13.72	13.55	14.50	15.45	12.43	13.37	13.20	14.15	15.10
	3H	14.66	15.44	15.45	16.26	17.23	14.26	15.04	15.04	15.86	16.83
	4H	15.38	16.09	16.18	16.91	17.91	14.96	15.68	15.76	16.49	17.49
	6H	15.90	16.52	16.72	17.36	18.36	15.48	16.10	16.30	16.93	17.94
	8H	16.06	16.63	16.88	17.47	18.48	15.63	16.21	16.45	17.04	18.06
	12H	16.14	16.66	16.98	17.51	18.54	15.70	16.22	16.54	17.07	18.10
8H	4H	15.59	16.17	16.41	17.00	18.02	15.22	15.80	16.04	16.63	17.65
	6H	16.23	16.70	17.08	17.58	18.60	15.85	16.33	16.70	17.20	18.22
	8H	16.44	16.87	17.31	17.74	18.78	16.06	16.49	16.92	17.36	18.39
	12H	16.58	16.96	17.45	17.82	18.91	16.18	16.56	17.05	17.42	18.51
12H	4H	15.59	16.11	16.43	16.96	17.99	15.23	15.75	16.07	16.60	17.62
	6H	16.26	16.68	17.12	17.55	18.59	15.89	16.32	16.75	17.19	18.22
	8H	16.50	16.88	17.37	17.74	18.83	16.13	16.51	17.00	17.37	18.46