

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: P930710

Luminaire Tested: DFN2DS-PN4F0-080DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930710
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-PN4F0-080DS840-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

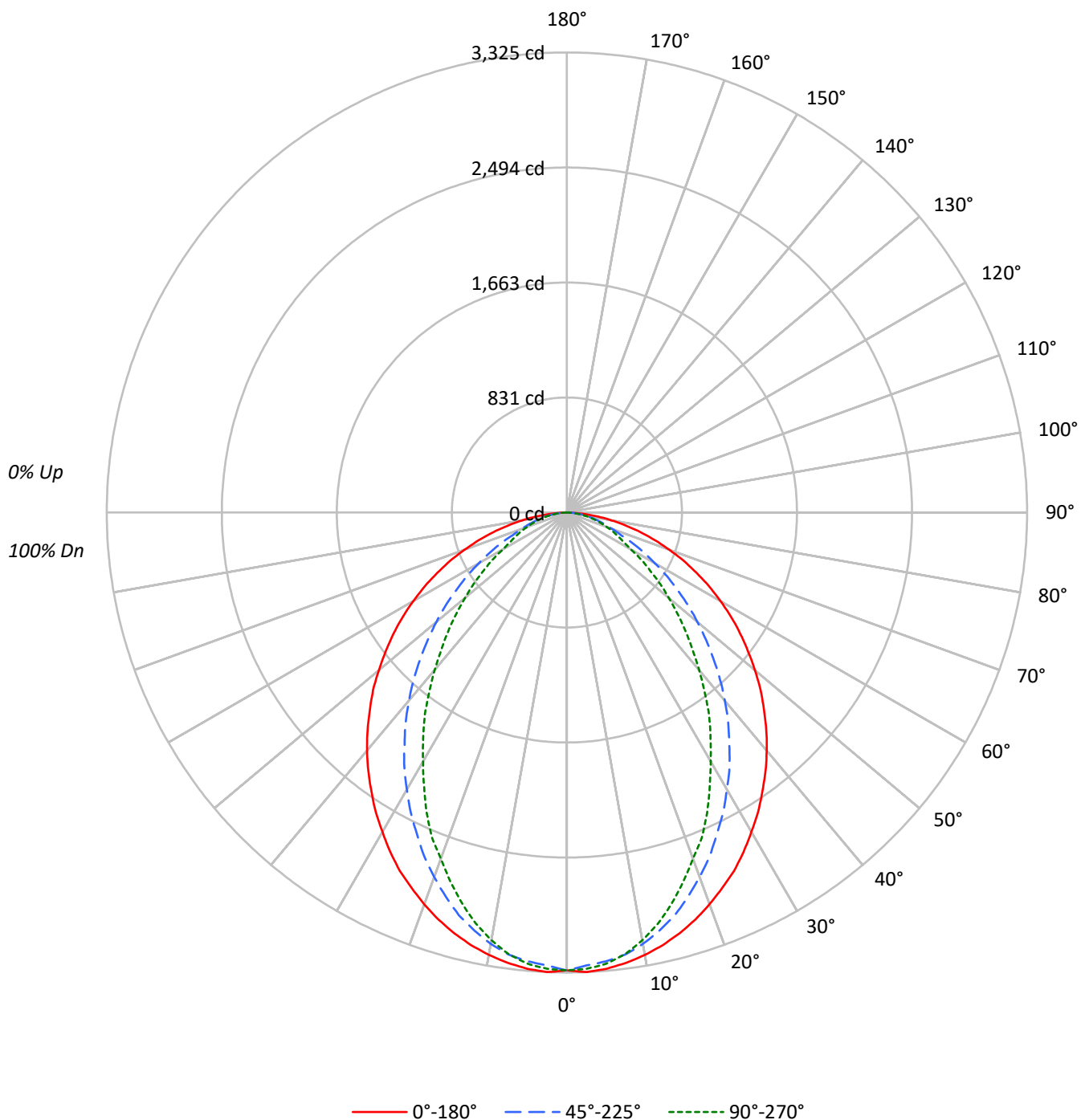
Lumens per Lamp: N/A
Luminaire Lumens: 6806.8 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 81.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2416	2416	2416
5°	2425	2386	2399
10°	2407	2347	2327
15°	2379	2277	2212
20°	2341	2178	2068
25°	2301	2065	1930
30°	2247	1949	1752
35°	2194	1823	1596
40°	2141	1692	1416
45°	2078	1546	1252
50°	2014	1398	1092
55°	1948	1239	938
60°	1871	1071	778
65°	1785	900	709
70°	1681	741	652
75°	1554	676	609
80°	1372	604	554
85°	1078	477	477

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2078 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.2	4.6
10°-20°	851.5	12.5
20°-30°	1195.5	17.6
30°-40°	1303.2	19.1
40°-50°	1197.8	17.6
50°-60°	940.7	13.8
60°-70°	612.3	9.0
70°-80°	315.2	4.6
80°-90°	80.5	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2357.2	34.6
0°-40°	3660.4	53.8
0°-60°	5798.9	85.2
0°-90°	6806.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6806.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3310	3310	3310	3310	3310	
5°	3310	3295	3256	3283	3274	314
15°	3148	3115	3013	2956	2926	887
25°	2858	2762	2564	2441	2396	1314
35°	2462	2309	2046	1857	1791	1541
45°	2013	1812	1498	1285	1213	1554
55°	1530	1297	973	794	737	1368
65°	1033	791	521	420	410	1025
75°	551	341	240	219	216	583
85°	129	66	57	57	57	154
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3309.7	3309.7	3309.7	3309.7	3309.7
2.5°	3324.6	3309.7	3276.7	3306.8	3300.8
5°	3309.7	3294.8	3255.7	3282.7	3273.8
7.5°	3282.7	3264.9	3222.9	3234.7	3219.7
10°	3246.7	3225.8	3166.1	3156.9	3139.0
12.5°	3202.0	3175.0	3093.9	3076.1	3043.0
15°	3147.9	3114.9	3013.2	2956.4	2926.4
17.5°	3085.0	3037.0	2911.2	2845.4	2797.4
20°	3013.2	2953.2	2803.5	2728.8	2662.7
22.5°	2935.3	2866.4	2692.6	2590.9	2546.0
25°	2857.5	2761.6	2563.9	2441.2	2396.1
27.5°	2764.7	2662.7	2444.0	2303.3	2234.3
30°	2665.9	2551.7	2312.2	2159.7	2078.6
32.5°	2569.9	2432.0	2186.7	2006.8	1931.8
35°	2462.2	2309.3	2045.8	1857.2	1791.0
37.5°	2357.3	2192.4	1914.0	1707.1	1632.4
40°	2246.4	2066.9	1776.1	1563.5	1485.6
42.5°	2132.6	1941.0	1638.4	1416.7	1341.9
45°	2012.8	1812.0	1497.7	1284.8	1213.0
47.5°	1899.1	1686.5	1363.0	1150.0	1084.3
50°	1773.2	1560.7	1231.1	1024.2	961.6
52.5°	1650.2	1425.5	1105.2	907.6	850.7
55°	1530.4	1296.9	973.4	793.8	736.9
57.5°	1407.8	1168.2	856.8	689.0	640.9
60°	1281.9	1042.3	733.7	581.2	533.2
62.5°	1159.3	919.6	628.9	485.3	461.5
65°	1033.4	790.6	521.1	419.5	410.2
67.5°	913.6	670.9	419.5	368.3	359.5
70°	787.8	554.3	347.3	317.4	305.4
72.5°	668.0	446.1	290.5	266.7	260.6
75°	551.1	341.3	239.6	218.6	215.8
77.5°	434.4	242.4	188.8	176.7	170.7
80°	326.3	173.9	143.6	131.8	131.8
82.5°	227.5	116.9	98.8	92.8	92.8
85°	128.7	65.8	56.9	56.9	56.9
87.5°	47.9	23.8	23.8	21.0	21.0
90°	0.0	0.0	0.0	0.0	0.0



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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	14.30	15.82	14.66	16.13	16.45	10.26	11.78	10.63	12.10	12.41
	3H	16.06	17.43	16.44	17.76	18.12	11.53	12.89	11.90	13.22	13.58
	4H	16.73	18.01	17.13	18.36	18.74	12.03	13.31	12.43	13.66	14.03
	6H	17.22	18.40	17.63	18.77	19.16	12.41	13.59	12.82	13.96	14.35
	8H	17.39	18.51	17.81	18.90	19.30	12.53	13.66	12.96	14.05	14.45
	12H	17.49	18.57	17.92	18.95	19.38	12.61	13.69	13.04	14.07	14.50
4H	2H	14.40	15.68	14.80	16.03	16.41	10.96	12.24	11.36	12.58	12.96
	3H	16.34	17.40	16.75	17.80	18.20	12.40	13.46	12.81	13.86	14.26
	4H	17.09	18.04	17.52	18.46	18.90	13.00	13.95	13.43	14.37	14.81
	6H	17.68	18.51	18.14	18.95	19.41	13.49	14.32	13.94	14.76	15.22
	8H	17.89	18.67	18.36	19.11	19.58	13.65	14.43	14.11	14.87	15.34
	12H	18.05	18.74	18.53	19.22	19.69	13.77	14.46	14.25	14.94	15.41
8H	4H	17.11	17.89	17.57	18.33	18.80	13.35	14.13	13.82	14.57	15.04
	6H	17.75	18.39	18.24	18.88	19.36	13.94	14.58	14.43	15.07	15.55
	8H	18.00	18.57	18.51	19.08	19.57	14.16	14.74	14.67	15.25	15.73
	12H	18.20	18.71	18.71	19.20	19.77	14.34	14.85	14.85	15.34	15.91
12H	4H	17.09	17.79	17.58	18.27	18.74	13.40	14.09	13.88	14.57	15.04
	6H	17.73	18.31	18.24	18.82	19.30	14.00	14.58	14.52	15.09	15.58
	8H	18.01	18.52	18.52	19.01	19.58	14.27	14.78	14.78	15.28	15.84