

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: P930746

Luminaire Tested: DFN2DS-PN4F0-100DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930746
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-PN4F0-100DS840-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

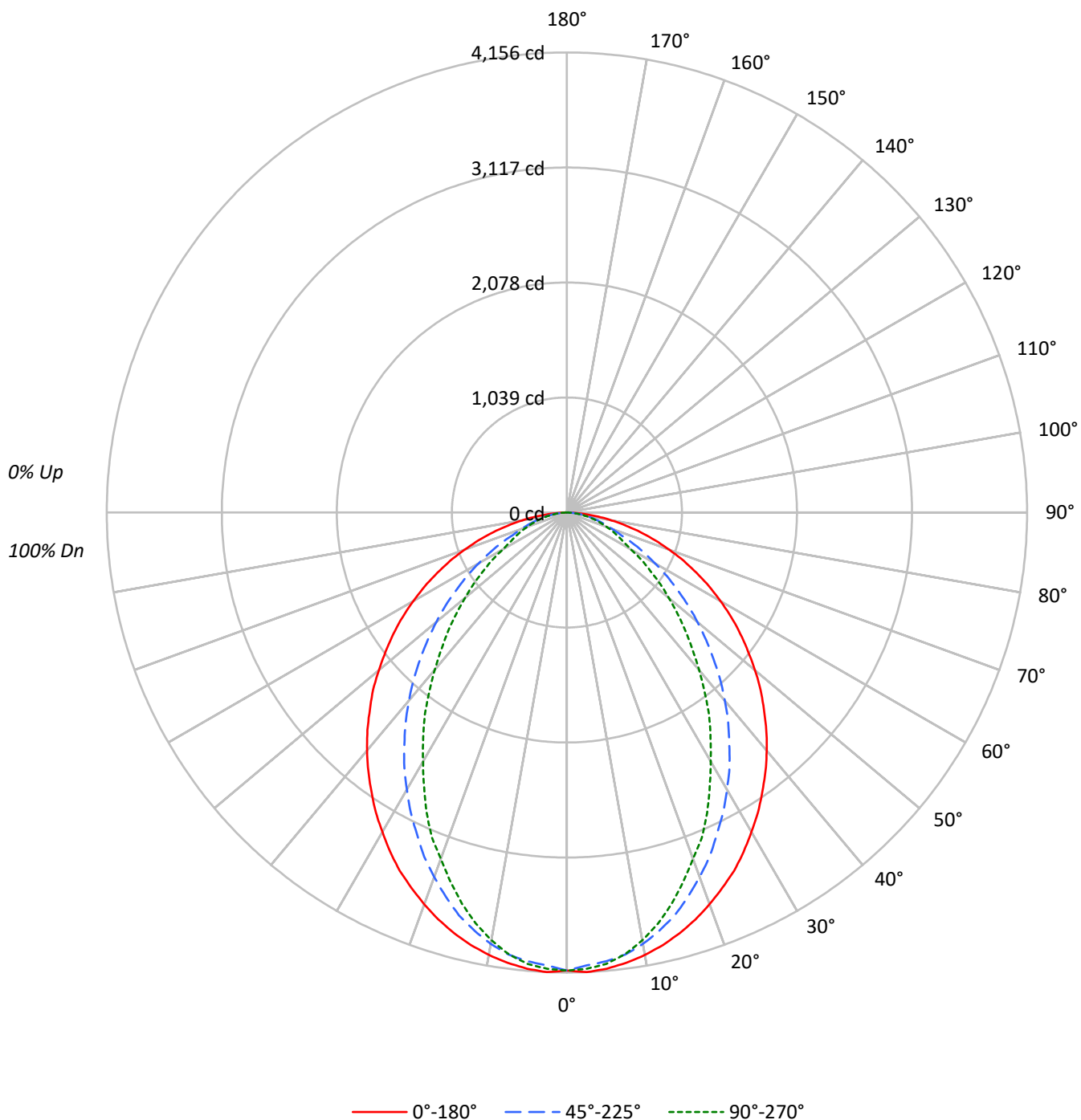
Lumens per Lamp: N/A
Luminaire Lumens: 8508.5 lumens
Efficiency: N/A
Efficacy: 80.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 105.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
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°	3020	3020	3020
5°	3031	2982	2999
10°	3008	2933	2908
15°	2974	2846	2764
20°	2926	2722	2585
25°	2877	2581	2412
30°	2809	2436	2190
35°	2743	2279	1995
40°	2676	2116	1770
45°	2597	1933	1565
50°	2517	1747	1365
55°	2435	1548	1172
60°	2339	1339	973
65°	2231	1125	886
70°	2102	926	815
75°	1943	845	761
80°	1715	755	693
85°	1348	595	595

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2597 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	387.7	4.6
10°-20°	1064.4	12.5
20°-30°	1494.4	17.6
30°-40°	1629.0	19.1
40°-50°	1497.2	17.6
50°-60°	1175.8	13.8
60°-70°	765.3	9.0
70°-80°	394.0	4.6
80°-90°	100.6	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°	2946.5	34.6
0°-40°	4575.5	53.8
0°-60°	7248.6	85.2
0°-90°	8508.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8508.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4137	4137	4137	4137	4137	
5°	4137	4118	4070	4103	4092	392
15°	3935	3894	3766	3695	3658	1109
25°	3572	3452	3205	3051	2995	1643
35°	3078	2887	2557	2321	2239	1926
45°	2516	2265	1872	1606	1516	1943
55°	1913	1621	1217	992	921	1709
65°	1292	988	652	524	513	1281
75°	689	427	300	273	270	729
85°	161	82	71	71	71	193
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4137.1	4137.1	4137.1	4137.1	4137.1
2.5°	4155.8	4137.1	4095.8	4133.5	4126.0
5°	4137.1	4118.4	4069.6	4103.4	4092.2
7.5°	4103.4	4081.1	4028.6	4043.3	4024.7
10°	4058.5	4032.2	3957.6	3946.0	3923.8
12.5°	4002.5	3968.7	3867.4	3845.1	3803.8
15°	3934.9	3893.6	3766.5	3695.4	3658.1
17.5°	3856.3	3796.3	3639.0	3556.8	3496.8
20°	3766.5	3691.4	3504.3	3411.0	3328.3
22.5°	3669.2	3583.0	3365.7	3238.6	3182.6
25°	3571.9	3451.9	3204.8	3051.4	2995.1
27.5°	3455.9	3328.3	3055.1	2879.1	2792.9
30°	3332.3	3189.7	2890.2	2699.6	2598.3
32.5°	3212.4	3039.9	2733.3	2508.5	2414.7
35°	3077.7	2886.7	2557.4	2321.4	2238.7
37.5°	2946.6	2740.4	2392.5	2133.9	2040.5
40°	2808.0	2583.6	2220.1	1954.4	1857.1
42.5°	2665.8	2426.2	2048.1	1770.9	1677.5
45°	2516.0	2265.0	1872.2	1606.0	1516.2
47.5°	2373.9	2108.1	1703.7	1437.5	1355.4
50°	2216.5	1950.7	1538.8	1280.3	1202.0
52.5°	2062.8	1782.0	1381.6	1134.4	1063.4
55°	1913.0	1621.1	1216.7	992.3	921.1
57.5°	1759.8	1460.2	1071.0	861.2	801.2
60°	1602.4	1302.9	917.2	726.5	666.6
62.5°	1449.0	1149.5	786.1	606.6	576.8
65°	1291.8	988.3	651.5	524.3	512.8
67.5°	1142.0	838.5	524.3	460.4	449.2
70°	984.7	692.8	434.1	396.8	381.8
72.5°	834.9	557.7	363.1	333.2	325.7
75°	688.8	426.6	299.5	273.3	269.7
77.5°	543.0	303.1	235.9	220.8	213.3
80°	407.9	217.3	179.6	164.9	164.9
82.5°	284.4	146.1	123.5	116.0	116.0
85°	160.9	82.2	71.1	71.1	71.1
87.5°	60.0	29.8	29.8	26.2	26.2
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	15.07	16.60	15.44	16.91	17.22	11.04	12.56	11.40	12.87	13.19
	3H	16.84	18.21	17.22	18.53	18.89	12.30	13.67	12.68	13.99	14.36
	4H	17.51	18.79	17.91	19.14	19.51	12.80	14.08	13.20	14.43	14.81
	6H	18.00	19.18	18.41	19.54	19.94	13.18	14.37	13.60	14.73	15.12
	8H	18.16	19.29	18.59	19.68	20.08	13.31	14.43	13.73	14.82	15.22
	12H	18.26	19.34	18.69	19.72	20.15	13.39	14.47	13.82	14.85	15.28
4H	2H	15.18	16.46	15.58	16.81	17.19	11.73	13.01	12.13	13.36	13.74
	3H	17.11	18.17	17.52	18.57	18.98	13.17	14.24	13.58	14.64	15.04
	4H	17.86	18.82	18.29	19.23	19.67	13.77	14.73	14.21	15.15	15.58
	6H	18.45	19.29	18.91	19.73	20.19	14.26	15.09	14.72	15.54	16.00
	8H	18.67	19.44	19.13	19.89	20.36	14.42	15.20	14.89	15.64	16.11
	12H	18.82	19.52	19.30	19.99	20.46	14.54	15.24	15.02	15.71	16.18
8H	4H	17.89	18.66	18.35	19.11	19.57	14.13	14.90	14.59	15.35	15.82
	6H	18.52	19.17	19.02	19.66	20.13	14.71	15.36	15.21	15.85	16.32
	8H	18.77	19.35	19.29	19.86	20.35	14.93	15.51	15.45	16.02	16.51
	12H	18.98	19.49	19.49	19.98	20.54	15.11	15.62	15.62	16.12	16.68
12H	4H	17.87	18.56	18.35	19.04	19.51	14.17	14.86	14.65	15.34	15.81
	6H	18.50	19.08	19.02	19.59	20.08	14.78	15.35	15.29	15.86	16.35
	8H	18.79	19.30	19.30	19.79	20.35	15.05	15.56	15.56	16.05	16.62