

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: P930431

Luminaire Tested: DFN2DS-PN2F0-020DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930431
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-PN2F0-020DS940-FLL
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

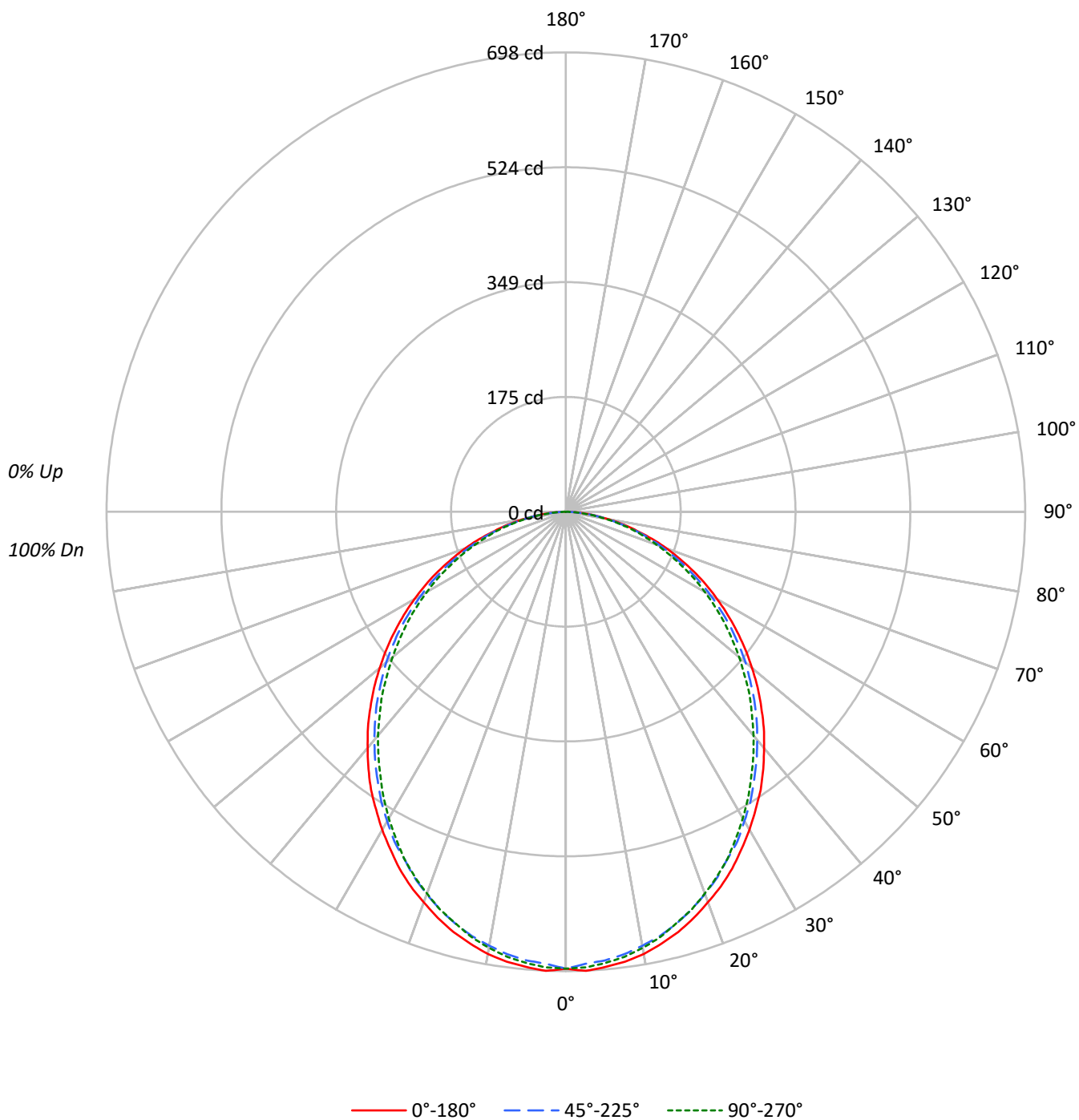
Lumens per Lamp: N/A
Luminaire Lumens: 1766.2 lumens
Efficiency: N/A
Efficacy: 91.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.29' x L: 2.17' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1504	1504	1504
5°	1509	1488	1496
10°	1500	1472	1480
15°	1482	1453	1452
20°	1455	1425	1423
25°	1429	1389	1389
30°	1396	1357	1346
35°	1364	1318	1299
40°	1325	1279	1255
45°	1286	1241	1211
50°	1244	1201	1158
55°	1200	1154	1112
60°	1151	1099	1058
65°	1098	1043	996
70°	1032	976	930
75°	938	899	877
80°	833	808	766
85°	678	646	582

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1286 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.3	3.7
10°-20°	183.8	10.4
20°-30°	270.2	15.3
30°-40°	313.8	17.8
40°-50°	313.4	17.7
50°-60°	273.2	15.5
60°-70°	202.0	11.4
70°-80°	114.3	6.5
80°-90°	30.2	1.7
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°	519.3	29.4
0°-40°	833.1	47.2
0°-60°	1419.7	80.4
0°-90°	1766.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1766.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	694	694	694	694	694	
5°	694	692	684	690	688	66
15°	661	657	648	651	648	186
25°	598	593	581	583	581	275
35°	516	509	499	495	491	322
45°	420	415	405	398	395	324
55°	318	314	306	298	294	284
65°	214	210	204	198	194	212
75°	112	111	107	104	105	120
85°	27	27	26	24	23	32
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	694.2	694.2	694.2	694.2	694.2
2.5°	698.2	694.9	687.5	694.2	692.9
5°	694.2	691.6	684.2	689.5	688.2
7.5°	689.5	685.5	678.2	683.5	682.2
10°	682.2	677.6	669.5	674.8	672.8
12.5°	672.1	668.2	660.2	663.5	662.1
15°	660.8	656.9	648.1	650.8	647.5
17.5°	646.8	642.9	634.1	637.4	634.1
20°	631.4	627.4	618.1	620.1	617.4
22.5°	616.1	610.1	601.4	601.4	600.0
25°	598.1	592.7	581.4	582.7	581.4
27.5°	578.0	573.4	564.7	562.8	559.4
30°	558.0	552.7	542.7	540.7	538.0
32.5°	536.6	532.7	522.0	518.0	515.3
35°	516.0	509.3	498.6	494.6	491.2
37.5°	492.7	486.6	475.9	471.2	467.9
40°	468.6	463.2	452.5	446.6	443.9
42.5°	445.2	439.8	429.2	422.5	418.5
45°	419.9	415.2	405.1	397.8	395.2
47.5°	395.2	390.5	379.8	372.4	368.5
50°	369.1	365.8	356.4	347.1	343.8
52.5°	343.8	339.0	330.4	323.1	318.4
55°	317.7	313.7	305.7	297.7	294.4
57.5°	291.7	288.4	279.6	271.7	268.9
60°	265.6	263.1	253.7	246.3	244.3
62.5°	240.3	235.6	229.0	222.3	219.6
65°	214.3	210.2	203.6	197.6	194.3
67.5°	187.6	184.2	178.2	173.6	170.9
70°	162.9	160.2	154.1	149.5	146.9
72.5°	137.5	134.9	131.5	126.8	124.9
75°	112.1	110.9	107.4	103.5	104.8
77.5°	89.5	86.8	85.4	83.4	81.4
80°	66.8	66.1	64.8	62.7	61.4
82.5°	45.4	45.4	44.8	42.1	42.1
85°	27.3	26.7	26.0	24.0	23.4
87.5°	12.0	10.7	9.4	7.4	6.7
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	12.70	14.31	13.06	14.62	14.94	12.26	13.87	12.62	14.18	14.49
	3H	14.45	15.90	14.83	16.23	16.59	13.96	15.41	14.34	15.74	16.10
	4H	15.10	16.47	15.49	16.81	17.19	14.60	15.97	15.00	16.32	16.69
	6H	15.57	16.83	15.98	17.20	17.59	15.06	16.33	15.47	16.70	17.09
	8H	15.71	16.92	16.13	17.31	17.71	15.21	16.42	15.63	16.81	17.20
	12H	15.80	16.96	16.23	17.34	17.77	15.29	16.45	15.72	16.83	17.26
4H	2H	13.26	14.63	13.66	14.98	15.35	12.91	14.28	13.31	14.62	15.00
	3H	15.24	16.38	15.64	16.78	17.18	14.83	15.97	15.24	16.37	16.77
	4H	16.01	17.05	16.44	17.46	17.90	15.59	16.62	16.02	17.04	17.47
	6H	16.61	17.51	17.06	17.95	18.41	16.18	17.08	16.63	17.52	17.98
	8H	16.80	17.65	17.26	18.09	18.55	16.36	17.21	16.82	17.65	18.11
	12H	16.93	17.69	17.41	18.17	18.64	16.48	17.24	16.96	17.71	18.18
8H	4H	16.29	17.13	16.75	17.57	18.04	15.91	16.76	16.37	17.20	17.67
	6H	17.00	17.70	17.49	18.19	18.67	16.62	17.32	17.11	17.81	18.28
	8H	17.26	17.89	17.77	18.40	18.88	16.87	17.50	17.38	18.00	18.49
	12H	17.46	18.02	17.97	18.51	19.07	17.05	17.60	17.55	18.09	18.65
12H	4H	16.31	17.07	16.79	17.55	18.02	15.95	16.71	16.43	17.18	17.65
	6H	17.05	17.68	17.56	18.18	18.67	16.68	17.31	17.19	17.81	18.30
	8H	17.36	17.92	17.87	18.41	18.97	16.98	17.54	17.49	18.03	18.59