

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: P930453

Luminaire Tested: DFN2DS-PN2F0-040DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930453
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-PN2F0-040DS830-FLL
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

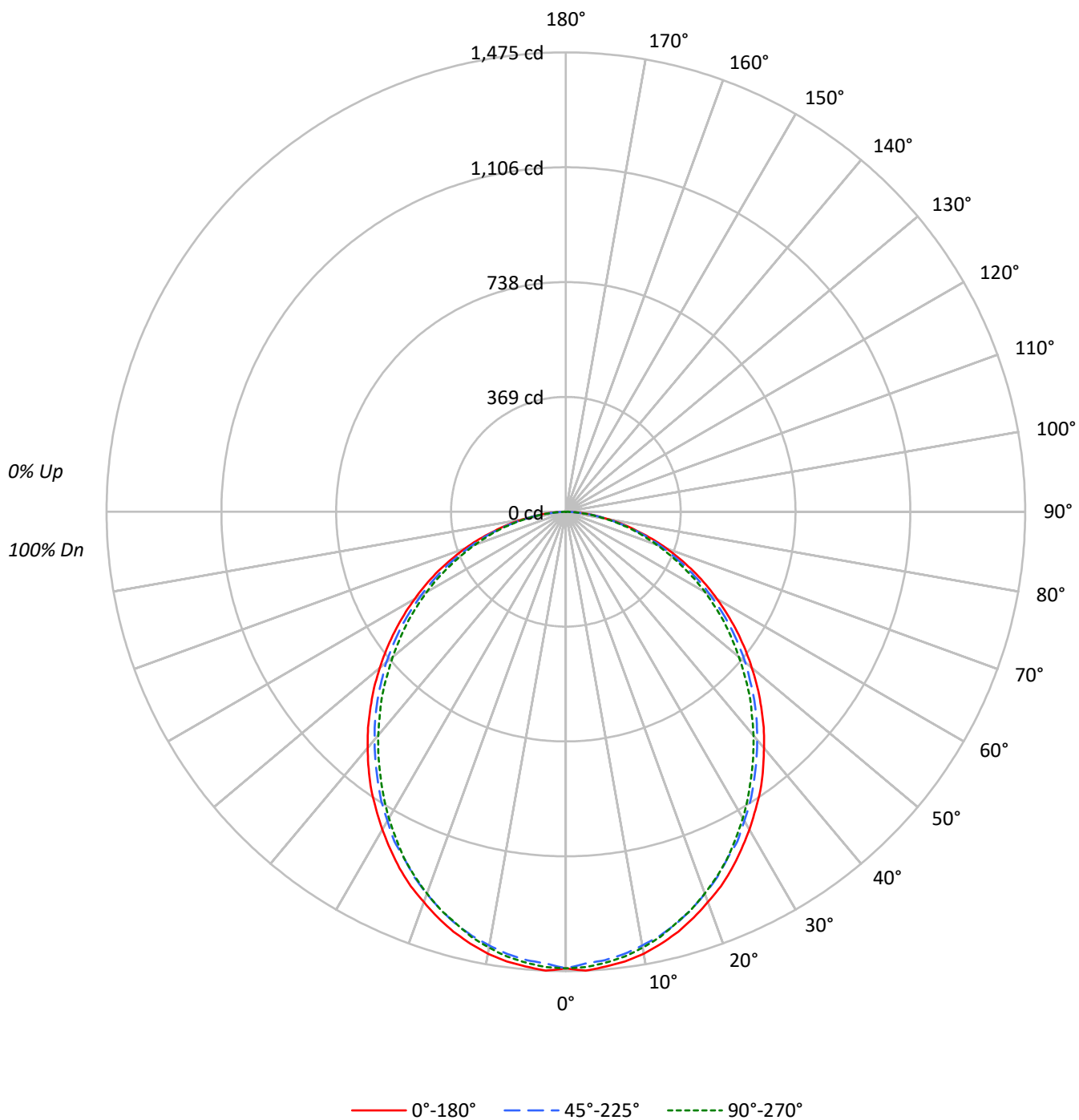
Lumens per Lamp: N/A
Luminaire Lumens: 3730.3 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.29' x L: 2.17' x H: 0')
CIE Type: Direct

Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
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	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3175	3175	3175
5°	3188	3142	3160
10°	3169	3110	3125
15°	3130	3069	3067
20°	3074	3009	3006
25°	3019	2935	2935
30°	2948	2867	2842
35°	2881	2785	2743
40°	2799	2702	2651
45°	2716	2621	2556
50°	2627	2537	2446
55°	2535	2438	2348
60°	2431	2321	2235
65°	2320	2204	2103
70°	2178	2062	1964
75°	1982	1899	1853
80°	1759	1705	1618
85°	1434	1367	1228

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2716 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.0	3.7
10°-20°	388.3	10.4
20°-30°	570.6	15.3
30°-40°	662.7	17.8
40°-50°	661.9	17.7
50°-60°	577.1	15.5
60°-70°	426.6	11.4
70°-80°	241.4	6.5
80°-90°	63.7	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°	1096.8	29.4
0°-40°	1759.5	47.2
0°-60°	2998.6	80.4
0°-90°	3730.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3730.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1466	1466	1466	1466	1466	
5°	1466	1461	1445	1456	1454	139
15°	1396	1387	1369	1375	1368	393
25°	1263	1252	1228	1231	1228	581
35°	1090	1076	1053	1045	1038	681
45°	887	877	856	840	835	684
55°	671	663	646	629	622	600
65°	453	444	430	417	410	447
75°	237	234	227	218	221	253
85°	58	56	55	51	49	68
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1466.1	1466.1	1466.1	1466.1	1466.1
2.5°	1474.7	1467.6	1452.1	1466.1	1463.5
5°	1466.1	1460.6	1445.0	1456.2	1453.6
7.5°	1456.2	1447.9	1432.3	1443.7	1440.9
10°	1440.9	1431.0	1414.1	1425.3	1421.1
12.5°	1419.6	1411.2	1394.3	1401.4	1398.5
15°	1395.7	1387.3	1368.9	1374.6	1367.6
17.5°	1366.1	1357.7	1339.3	1346.3	1339.3
20°	1333.6	1325.2	1305.5	1309.7	1304.2
22.5°	1301.3	1288.6	1270.2	1270.2	1267.4
25°	1263.1	1251.9	1228.0	1230.7	1228.0
27.5°	1220.8	1210.9	1192.8	1188.5	1181.6
30°	1178.6	1167.3	1146.2	1142.0	1136.3
32.5°	1133.5	1125.1	1102.5	1094.0	1088.3
35°	1089.8	1075.8	1053.2	1044.7	1037.6
37.5°	1040.4	1027.7	1005.1	995.3	988.3
40°	989.8	978.4	955.8	943.2	937.6
42.5°	940.4	929.0	906.6	892.4	884.0
45°	886.8	877.0	855.7	840.4	834.6
47.5°	834.6	824.7	802.2	786.7	778.3
50°	779.6	772.5	752.8	733.1	726.0
52.5°	726.0	716.2	697.9	682.4	672.5
55°	671.2	662.6	645.7	628.8	621.8
57.5°	616.1	609.1	590.6	573.8	568.1
60°	561.1	555.5	535.8	520.3	516.0
62.5°	507.5	497.7	483.6	469.5	463.8
65°	452.6	444.1	430.0	417.3	410.3
67.5°	396.2	389.0	376.5	366.6	361.0
70°	344.0	338.4	325.6	315.8	310.2
72.5°	290.5	284.8	277.8	267.9	263.7
75°	236.8	234.1	226.9	218.5	221.4
77.5°	188.9	183.2	180.4	176.2	172.0
80°	141.0	139.5	136.7	132.5	129.7
82.5°	95.9	95.9	94.6	88.8	88.8
85°	57.7	56.4	55.0	50.7	49.4
87.5°	25.4	22.6	19.8	15.5	14.0
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	15.30	16.91	15.66	17.22	17.54	14.85	16.46	15.22	16.78	17.09
	3H	17.05	18.50	17.42	18.83	19.19	16.56	18.01	16.93	18.34	18.70
	4H	17.69	19.06	18.09	19.41	19.79	17.20	18.57	17.60	18.92	19.29
	6H	18.16	19.43	18.57	19.80	20.19	17.66	18.93	18.07	19.29	19.69
	8H	18.31	19.52	18.73	19.91	20.30	17.80	19.01	18.23	19.40	19.80
	12H	18.40	19.56	18.83	19.94	20.37	17.88	19.04	18.31	19.43	19.85
4H	2H	15.86	17.23	16.26	17.57	17.95	15.50	16.87	15.90	17.22	17.60
	3H	17.83	18.98	18.24	19.38	19.78	17.43	18.57	17.84	18.97	19.37
	4H	18.61	19.65	19.04	20.06	20.49	18.19	19.22	18.62	19.63	20.07
	6H	19.21	20.11	19.66	20.55	21.01	18.77	19.68	19.23	20.12	20.57
	8H	19.39	20.24	19.86	20.68	21.15	18.96	19.80	19.42	20.25	20.71
	12H	19.53	20.29	20.01	20.76	21.23	19.07	19.83	19.55	20.31	20.78
8H	4H	18.88	19.73	19.34	20.17	20.64	18.51	19.35	18.97	19.80	20.26
	6H	19.60	20.30	20.09	20.79	21.26	19.22	19.92	19.71	20.41	20.88
	8H	19.86	20.49	20.37	20.99	21.48	19.46	20.09	19.97	20.60	21.09
	12H	20.06	20.61	20.56	21.10	21.67	19.64	20.20	20.15	20.69	21.25
12H	4H	18.91	19.67	19.39	20.14	20.61	18.54	19.30	19.02	19.78	20.25
	6H	19.64	20.27	20.15	20.78	21.27	19.27	19.91	19.78	20.41	20.90
	8H	19.96	20.51	20.46	21.00	21.57	19.58	20.14	20.08	20.63	21.19