

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: P930242

Luminaire Tested: DFN2DS-HX3F0-090DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930242
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-HX3F0-090DS840-RLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

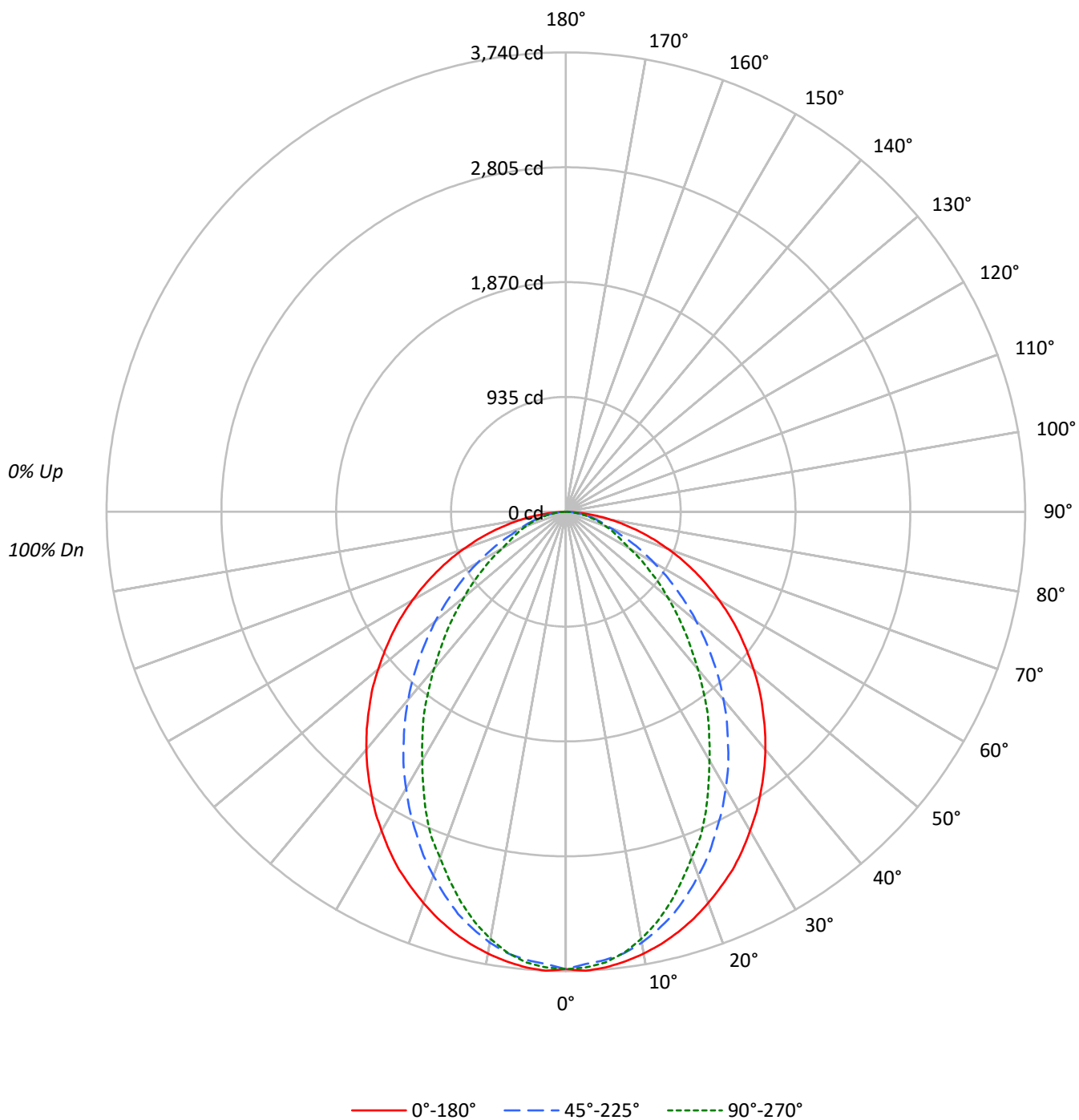
Lumens per Lamp: N/A
Luminaire Lumens: 7657.7 lumens
Efficiency: N/A
Efficacy: 78.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')
CIE Type: Direct

Input Watts (W): 97.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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°	4313	4313	4313
5°	4329	4259	4283
10°	4296	4190	4154
15°	4247	4065	3948
20°	4179	3888	3693
25°	4109	3687	3445
30°	4011	3479	3128
35°	3917	3255	2849
40°	3821	3021	2527
45°	3710	2760	2235
50°	3595	2496	1949
55°	3477	2211	1674
60°	3341	1912	1390
65°	3187	1607	1265
70°	3002	1324	1163
75°	2774	1207	1086
80°	2449	1078	989
85°	1923	851	851

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3710 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	349.0	4.6
10°-20°	958.0	12.5
20°-30°	1345.0	17.6
30°-40°	1466.1	19.1
40°-50°	1347.5	17.6
50°-60°	1058.3	13.8
60°-70°	688.8	9.0
70°-80°	354.6	4.6
80°-90°	90.5	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°	2651.9	34.6
0°-40°	4118.0	53.8
0°-60°	6523.8	85.2
0°-90°	7657.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7657.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3723	3723	3723	3723	3723	
5°	3723	3707	3663	3693	3683	353
15°	3541	3504	3390	3326	3292	998
25°	3215	3107	2884	2746	2696	1478
35°	2770	2598	2302	2089	2015	1734
45°	2264	2038	1685	1445	1365	1749
55°	1722	1459	1095	893	829	1539
65°	1163	890	586	472	462	1153
75°	620	384	270	246	243	656
85°	145	74	64	64	64	174
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3723.4	3723.4	3723.4	3723.4	3723.4
2.5°	3740.2	3723.4	3686.2	3720.2	3713.4
5°	3723.4	3706.6	3662.7	3693.0	3683.0
7.5°	3693.0	3673.0	3625.8	3639.0	3622.2
10°	3652.6	3629.0	3561.9	3551.4	3531.4
12.5°	3602.2	3571.9	3480.7	3460.7	3423.4
15°	3541.4	3504.3	3389.9	3325.8	3292.3
17.5°	3470.7	3416.7	3275.1	3201.1	3147.1
20°	3389.9	3322.3	3153.9	3069.9	2995.5
22.5°	3302.3	3224.7	3029.1	2914.7	2864.4
25°	3214.7	3106.7	2884.4	2746.3	2695.6
27.5°	3110.3	2995.5	2749.5	2591.2	2513.6
30°	2999.1	2870.8	2601.2	2429.6	2338.4
32.5°	2891.1	2735.9	2460.0	2257.7	2173.3
35°	2770.0	2598.0	2301.6	2089.3	2014.9
37.5°	2651.9	2466.5	2153.3	1920.5	1836.5
40°	2527.2	2325.2	1998.1	1759.0	1671.4
42.5°	2399.2	2183.7	1843.2	1593.8	1509.7
45°	2264.5	2038.5	1684.9	1445.3	1364.6
47.5°	2136.4	1897.3	1533.3	1293.8	1219.8
50°	1994.9	1755.7	1385.0	1152.3	1081.8
52.5°	1856.6	1603.8	1243.4	1021.0	957.1
55°	1721.7	1459.0	1095.0	893.1	829.0
57.5°	1583.8	1314.2	963.9	775.1	721.1
60°	1442.1	1172.6	825.5	653.9	599.9
62.5°	1304.2	1034.6	707.5	545.9	519.1
65°	1162.6	889.5	586.3	471.9	461.6
67.5°	1027.8	754.7	471.9	414.3	404.3
70°	886.3	623.5	390.8	357.2	343.5
72.5°	751.5	501.9	326.7	299.9	293.2
75°	619.9	384.0	269.6	245.9	242.7
77.5°	488.7	272.8	212.3	198.8	192.0
80°	367.2	195.6	161.6	148.3	148.3
82.5°	256.0	131.5	111.2	104.4	104.4
85°	144.7	74.0	64.0	64.0	64.0
87.5°	54.0	26.8	26.8	23.6	23.6
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	16.31	17.83	16.68	18.15	18.46	12.27	13.80	12.64	14.11	14.42
	3H	18.08	19.44	18.46	19.77	20.13	13.54	14.90	13.92	15.23	15.59
	4H	18.74	20.03	19.14	20.37	20.75	14.04	15.32	14.44	15.67	16.05
	6H	19.23	20.42	19.65	20.78	21.18	14.42	15.60	14.83	15.97	16.36
	8H	19.40	20.53	19.83	20.92	21.32	14.55	15.67	14.97	16.06	16.46
	12H	19.50	20.58	19.93	20.96	21.39	14.63	15.71	15.06	16.09	16.52
4H	2H	16.42	17.70	16.82	18.05	18.42	12.97	14.25	13.37	14.60	14.98
	3H	18.35	19.41	18.76	19.81	20.21	14.41	15.47	14.82	15.87	16.28
	4H	19.10	20.06	19.53	20.47	20.91	15.01	15.97	15.44	16.38	16.82
	6H	19.69	20.52	20.15	20.97	21.43	15.50	16.33	15.96	16.77	17.23
	8H	19.91	20.68	20.37	21.13	21.59	15.66	16.44	16.12	16.88	17.35
	12H	20.06	20.75	20.54	21.23	21.70	15.78	16.47	16.26	16.95	17.42
8H	4H	19.12	19.90	19.59	20.35	20.81	15.37	16.14	15.83	16.59	17.05
	6H	19.76	20.40	20.26	20.90	21.37	15.95	16.59	16.45	17.09	17.56
	8H	20.01	20.59	20.53	21.10	21.59	16.17	16.75	16.69	17.26	17.75
	12H	20.22	20.73	20.73	21.22	21.78	16.35	16.86	16.86	17.35	17.92
12H	4H	19.11	19.80	19.59	20.28	20.75	15.41	16.10	15.89	16.58	17.05
	6H	19.74	20.32	20.26	20.83	21.32	16.01	16.59	16.53	17.10	17.59
	8H	20.03	20.54	20.54	21.03	21.59	16.29	16.80	16.80	17.29	17.85