

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: P915175

Luminaire Tested: DFN2DIP-TR2F0-020D020US927-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915175
REPORT IS A COMBINATION OF REPORTS P901742 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-020D020US927-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

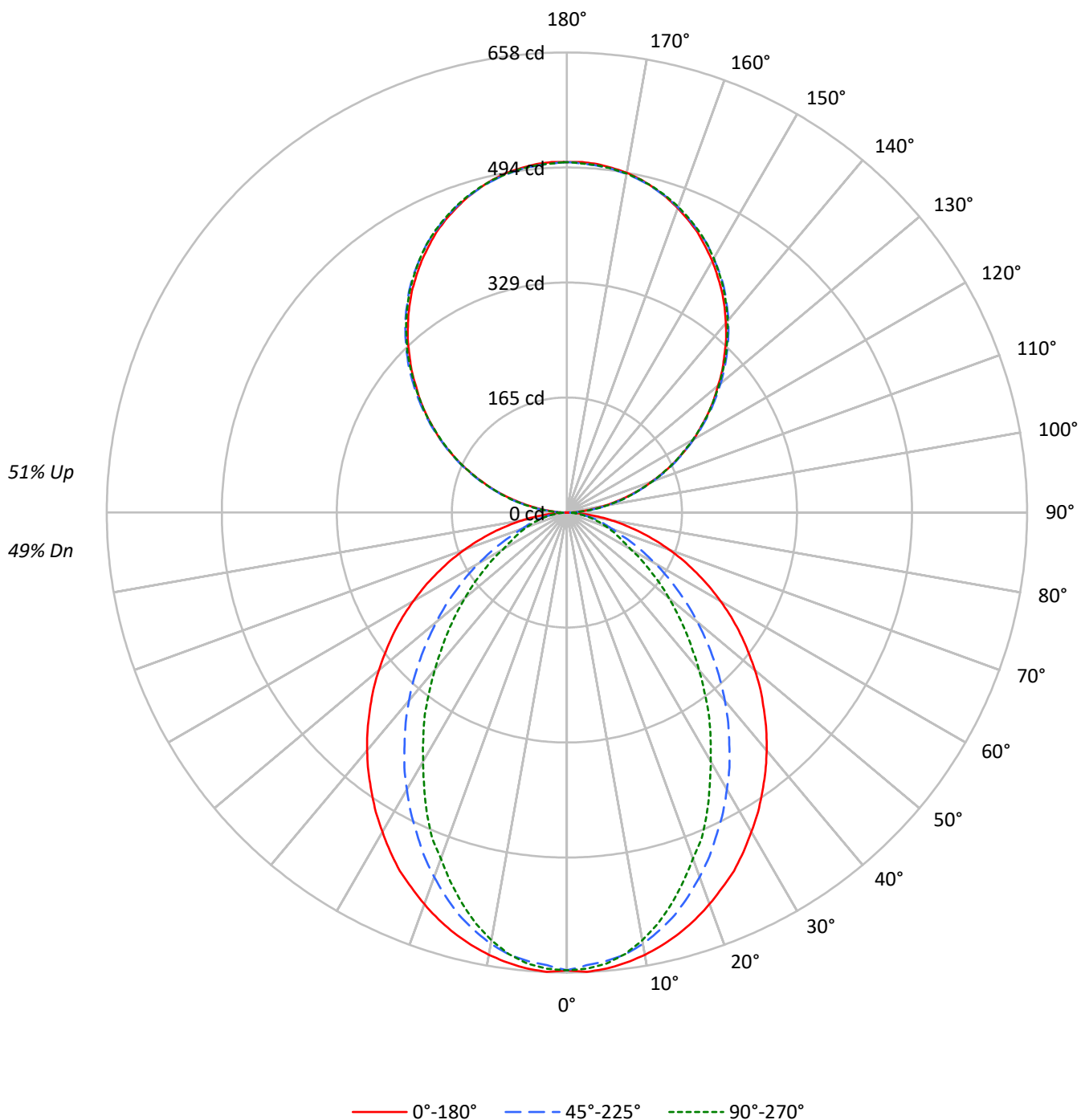
Lumens per Lamp: N/A
Luminaire Lumens: 2748.9 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 30.5
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	30	10
RCR																	
0	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1460	1460	1460
5°	1461	1434	1444
10°	1444	1403	1395
15°	1422	1353	1320
20°	1393	1286	1229
25°	1365	1212	1141
30°	1326	1136	1030
35°	1288	1055	933
40°	1250	971	822
45°	1205	878	722
50°	1159	785	624
55°	1110	686	530
60°	1054	583	434
65°	989	478	388
70°	910	381	347
75°	811	329	311
80°	669	267	262
85°	438	165	184

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1205 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.4	2.2
10°-20°	168.5	6.1
20°-30°	236.5	8.6
30°-40°	257.8	9.4
40°-50°	237.0	8.6
50°-60°	186.1	6.8
60°-70°	121.2	4.4
70°-80°	62.3	2.3
80°-90°	17.3	0.6
90°-100°	31.0	1.1
100°-110°	98.5	3.6
110°-120°	168.6	6.1
120°-130°	221.7	8.1
130°-140°	248.9	9.1
140°-150°	244.1	8.9
150°-160°	204.7	7.4
160°-170°	135.8	4.9
170°-180°	47.5	1.7
0°-30°	466.4	17.0
0°-40°	724.2	26.3
0°-60°	1147.3	41.7
0°-90°	1348.1	49.0
90°-120°	298.1	10.8
90°-150°	1012.8	36.8
90°-180°	1401.0	51.0
0°-180°	2748.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	655	655	655	655	655	
5°	655	652	644	650	648	62
15°	623	616	596	585	579	176
25°	565	546	507	483	474	260
35°	487	457	405	367	354	305
45°	398	358	296	254	240	308
55°	303	257	193	157	146	271
65°	204	156	103	83	81	203
75°	109	68	47	43	43	115
85°	25	13	11	11	11	29
90°	0	6	15	14	14	3
95°	22	26	27	27	26	25
105°	91	92	93	94	94	96
115°	169	172	171	170	169	167
125°	246	250	249	247	247	220
135°	318	323	324	323	322	246
145°	386	389	392	392	391	241
155°	442	443	444	447	445	203
165°	481	480	480	483	481	136
175°	500	499	498	501	498	48
180°	501	501	501	501	501	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	654.8	654.8	654.8	654.8	654.8
2.5°	657.7	654.8	648.2	654.3	653.1
5°	654.8	651.9	644.1	649.5	647.7
7.5°	649.5	645.9	637.6	640.0	637.0
10°	642.4	638.2	626.4	624.6	621.1
12.5°	633.5	628.1	612.1	608.6	602.1
15°	622.8	616.2	596.1	584.9	579.0
17.5°	610.4	600.9	576.0	562.9	553.5
20°	596.1	584.2	554.7	539.9	526.8
22.5°	580.7	567.1	532.7	512.6	503.7
25°	565.4	546.4	507.2	483.0	474.0
27.5°	547.0	526.8	483.5	455.7	442.0
30°	527.4	504.9	457.5	427.3	411.2
32.5°	508.4	481.2	432.6	397.0	382.2
35°	487.1	456.9	404.8	367.4	354.3
37.5°	466.4	433.7	378.7	337.8	323.0
40°	444.4	408.9	351.4	309.3	293.9
42.5°	421.9	384.0	324.2	280.3	265.5
45°	398.2	358.5	296.4	254.2	240.0
47.5°	375.7	333.7	269.7	227.5	214.5
50°	350.9	308.8	243.6	202.6	190.3
52.5°	326.5	282.0	218.6	179.6	168.3
55°	302.8	256.6	192.6	157.1	145.8
57.5°	278.5	231.1	169.5	136.3	126.8
60°	253.7	206.2	145.2	115.0	105.5
62.5°	229.3	182.0	124.5	96.0	91.3
65°	204.5	156.5	103.1	83.0	81.2
67.5°	180.8	132.7	83.0	72.9	71.1
70°	155.8	109.6	68.7	62.8	60.4
72.5°	132.1	88.2	57.4	52.8	51.6
75°	109.0	67.5	47.4	43.3	42.7
77.5°	86.0	48.0	37.3	34.9	33.7
80°	64.6	34.4	28.4	26.1	26.1
82.5°	45.0	23.1	19.6	18.4	18.4
85°	25.4	13.0	11.2	11.2	11.2
87.5°	9.5	4.8	4.8	4.1	4.1
90°	0.5	5.5	14.8	13.9	14.3
92.5°	9.3	12.7	13.2	13.6	13.6
95°	22.0	26.3	27.0	27.0	26.3
97.5°	36.7	40.6	42.3	42.3	42.3
100°	53.6	57.1	58.3	58.3	57.8
102.5°	71.5	74.0	75.7	76.1	75.7
105°	90.9	92.1	93.1	93.8	93.8
107.5°	110.3	112.1	112.1	112.4	110.3
110°	129.0	131.4	131.4	131.4	130.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	149.2	151.8	151.4	150.1	149.2
115°	169.2	171.6	170.9	170.4	169.2
117.5°	189.0	192.3	190.2	189.0	187.7
120°	208.9	212.2	208.9	208.9	207.6
122.5°	227.0	231.2	229.2	228.0	227.0
125°	246.1	249.9	248.7	247.3	246.8
127.5°	264.7	269.3	267.7	265.9	264.7
130°	282.0	287.5	286.7	285.8	284.2
132.5°	301.5	305.8	306.0	304.0	302.7
135°	318.3	323.0	323.8	323.4	322.2
137.5°	337.0	340.8	341.6	341.3	339.4
140°	353.5	357.3	359.4	359.4	357.7
142.5°	370.4	374.1	375.4	375.8	374.1
145°	386.4	389.4	391.9	392.3	390.6
147.5°	400.8	404.6	406.4	407.1	405.4
150°	415.6	418.1	419.8	421.1	419.8
152.5°	428.7	431.3	433.4	435.1	433.4
155°	441.9	443.1	444.4	446.6	445.2
157.5°	453.2	454.1	454.9	457.9	455.7
160°	463.3	464.2	464.7	467.2	465.4
162.5°	472.7	472.7	473.1	476.0	473.9
165°	480.7	480.2	480.2	483.2	481.2
167.5°	487.9	486.6	486.6	489.6	487.5
170°	493.4	492.2	491.7	494.7	492.2
172.5°	497.2	495.9	495.5	498.5	495.9
175°	500.2	499.0	498.0	501.1	498.5
177.5°	501.8	500.7	499.7	502.2	499.7
180°	501.1	501.1	501.1	501.1	501.1

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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	8.24	9.06	9.21	10.05	11.33	4.22	5.05	5.20	6.03	7.32
	3H	9.90	10.63	10.88	11.62	12.93	5.40	6.13	6.38	7.12	8.43
	4H	10.49	11.18	11.48	12.18	13.49	5.84	6.53	6.83	7.53	8.84
	6H	10.89	11.53	11.90	12.53	13.86	6.14	6.78	7.15	7.78	9.11
	8H	11.01	11.61	12.02	12.63	13.96	6.23	6.83	7.24	7.85	9.18
	12H	11.06	11.64	12.07	12.64	14.00	6.26	6.84	7.28	7.85	9.20
4H	2H	8.26	8.95	9.26	9.95	11.26	4.81	5.50	5.81	6.50	7.81
	3H	10.06	10.63	11.07	11.66	12.99	6.14	6.71	7.15	7.74	9.07
	4H	10.73	11.26	11.75	12.27	13.63	6.67	7.20	7.69	8.22	9.57
	6H	11.22	11.68	12.25	12.72	14.07	7.07	7.53	8.10	8.57	9.92
	8H	11.38	11.81	12.42	12.84	14.21	7.19	7.62	8.22	8.65	10.01
	12H	11.47	11.85	12.51	12.90	14.27	7.25	7.63	8.30	8.68	10.05
8H	4H	10.69	11.12	11.72	12.15	13.51	6.94	7.36	7.97	8.39	9.76
	6H	11.23	11.58	12.29	12.66	14.02	7.43	7.78	8.49	8.86	10.22
	8H	11.44	11.74	12.50	12.80	14.18	7.61	7.92	8.67	8.98	10.36
	12H	11.56	11.83	12.62	12.88	14.31	7.72	7.99	8.78	9.04	10.47
12H	4H	10.64	11.03	11.69	12.07	13.44	6.94	7.32	7.99	8.37	9.74
	6H	11.21	11.52	12.27	12.57	13.96	7.48	7.78	8.54	8.84	10.22
	8H	11.41	11.68	12.48	12.74	14.16	7.67	7.94	8.74	9.00	10.42

END OF REPORT